

THE

APRIL, 1948

Refrigeration

AIR CONDITIONING
EQUIPMENT

INDUSTRY

MERCHANDISING * INSTALLATION * MAINTENANCE

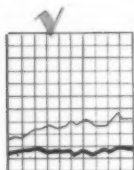


IN THIS ISSUE:

How To Cut Costs With Insulation . . . Promotion Paves the Way
When It Comes to Credits and Collections, Are You Out On a Limb?
Problems Into Profits . . . Better Cooling Means Better Business

WEBER'S 50 YEARS'

**EXPERIENCE
OFFERS THESE ADVANTAGES
FOR DEALER SUCCESS**



WEBER'S NEW LOW PRICES

Average reductions of 10% on all Commercial Refrigeration Equipment as shown in new price lists recently sent to Weber dealers have established Weber as the first in the industry to join other industrial leaders in their efforts to stop inflation.



FOUR SALES REGIONS

In order to more efficiently provide its dealers with the proper tools to do a selling job, Weber has divided the United States into 4 sales regions, each having its own Regional Office. The West—Los Angeles... The Midwest—Chicago... The East—New York... The South—to be announced.



A "HOME OFFICE" IN EACH REGION

Each of the four Regional Offices will be in charge of a Regional Manager who will have a complete Sales, Service, Store-planning, and Training staff under his direction. Thus, in effect, each Regional Office will be a "home office," with the entire resources of the 50-year-old Weber Company available to each dealer right in his own territory.



EACH REGION A COMPLETE UNIT

Each Regional Office will have its own showroom and warehouse facilities. Personnel will include a Store Planning Specialist, Soda Fountain Sales Specialist, a District Manager, a Service Manager, an Office Manager, and a Retail Sales Manager. This decentralization of warehouse stocks and sales organization will result in faster deliveries, fast product servicing and closer personal contact between company, dealer and customer.



TRAINING AIDS

Each region will provide Weber Dealers with specialized training help in both merchandising and servicing of Weber Equipment... more aids for the dealer who knows the most effective selling today is by helping the merchant in merchandising his store—in caring for his equipment—so as to increase his sales and profits.



SELLING AIDS

Each region will provide its dealers with the finest selling aids ever turned out by any manufacturer of refrigeration equipment. A completely informative Retail Sales Manual, a comprehensive pocket-size Data Book, Weber Organizational Book, a Service Manual, and special Presentation Folders containing valuable merchandising hints will be included in this material.



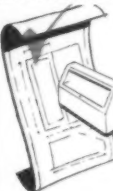
ADVERTISING

The most extensive advertising campaign in Weber history is now under way. Attention-getting, hard-selling ads in national and regional publications, descriptive literature, as well as co-operative dealer ads for local newspaper insertion, will call attention to Weber products, Weber quality, develop leads and prepare the way for the dealer to step in and do his selling job.



MARKET ANALYSIS

Each region will have continuous market analysis to keep its dealers ahead of competition as to current trends, market potentials and other factors important in helping them get their share of local business and in developing new outlets for Weber products.



PRODUCT REFINEMENT

The entire Weber line of products is undergoing extensive re-engineering processes, and production methods are being improved to insure that everything possible will be done to uphold Weber Quality and keep the Weber name ahead of the field.



WEBER—MOST COMPLETE LINE

The Weber Dealer represents the *most complete* line of refrigerated equipment in the world. Whether soda fountains, ice cream cabinets, frosted food cases, meat cases or walk-in refrigerators, he beats competition by offering all required equipment to any retail place of business under one name, with one responsibility, from one organization... the finest in the world... WEBER.



the best news yet...

**EXCLUSIVE DEALERSHIPS
ARE AVAILABLE**

WEBER SHOWCASE & FIXTURE CO., INC.
3700 Avalon Boulevard • Los Angeles 54, California

If you are interested in discussing our Exclusive Weber Dealership, contact us immediately, today, if possible, so that an appointment can be arranged for you through our Regional Offices.

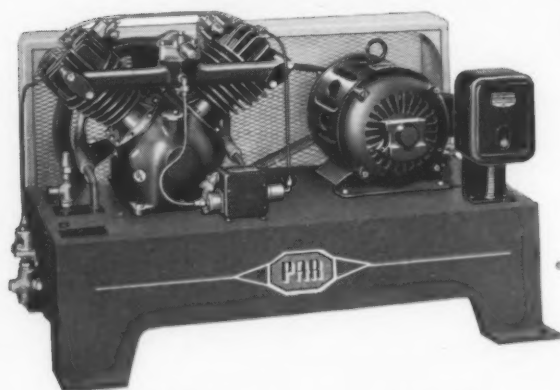


FOOD GUARD → **REFRIGERATED EQUIPMENT**
REGIONAL OFFICES ← **AND WAREHOUSES IN PRINCIPAL CITIES**



LYNCH ENGINEERING

Builds and Maintains . . .



DEPENDABLE

PAR

..... SERVICE

Lynch Engineers, working in all-modern engineering departments equipped with the latest type precision instruments, keep a continual check on Par performance. Always striving to build greater efficiency, more dependable service into every Par Condensing Unit . . . your assurance that when you buy Par, you buy years of engineering skill that is reflected in economical, efficient performance and extra years of dependable service. That's why—"By Comparison—They Buy Par."

Ask your Par Wholesaler for complete details and specifications on the Par line of condensing units or write direct for Par Catalog R-99.

By Comparison — You'll Buy PAR

LYNCH CORPORATION

Par Compressor Division

TOLEDO 1, OHIO U.S.A.



THE

Refrigeration

INDUSTRY

VOLUME 5, NO. 4

THIS MAGAZINE has no official affiliation with ANY group, society or association.

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SAM R. TRACY



THE COVER . . . Barrels of condensed milk are kept cool in this cold storage plant by means of two banks of 2-inch wrought iron ammonia coils installed on each side of the 41 x 60-foot room. Many opportunities for installations of this type are still open to the alert contractor. (Photo from A. M. Byers Co.)

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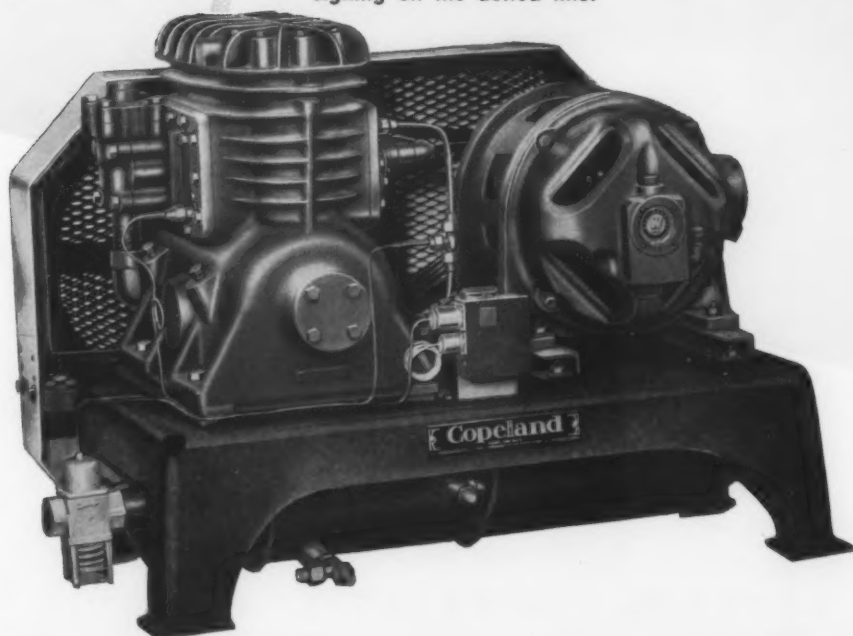
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Copeland

DEPENDABLE *Electric* REFRIGERATION

*Gets the
Ring*

Say "Copeland" to a refrigeration unit prospect, and it's like mentioning a class automobile to a car owner. Copeland stands for effective, trouble-free performance under all conditions. That's why it's easy for you to get in with your story, out with the order. Your market is already lined up — all around the town. The Copeland line means more signing on the dotted line.



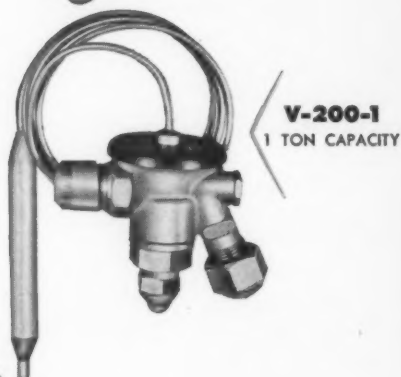
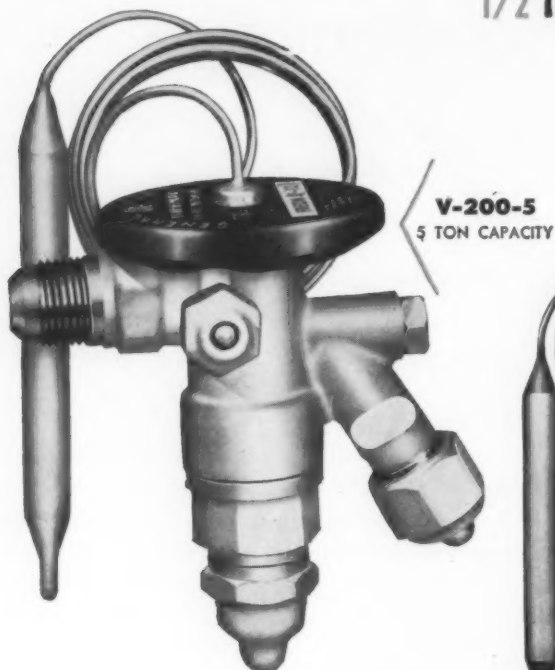
Manufacturers of: Refrigeration Units (open-type and Copelametic), Water Coolers, Refrigerators.

COPELAND REFRIGERATION CORPORATION, SIDNEY, OHIO

APRIL, 1948

Unsurpassed THERMAL EXPANSION VALVES

1/2 TO 5 TON CAPACITY



High or Low Temperature Applications
Freon, Methyl-Chloride, Sulphur Dioxide

Request colorful Refrigeration Catalog No. 200-1 illustrating complete line of Thermal Expansion, Magnetic Stop, Ammonia Suction Stop Valves and Strainers.



GENERAL CONTROLS

Manufacturers of Automatic Pressure, Temperature and Flow Controls.

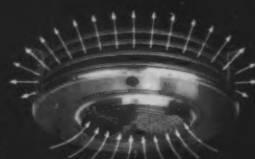
FACTORY BRANCHES: BIRMINGHAM (3), BOSTON (16), CHICAGO (5), CLEVELAND (15), DALLAS (2), DENVER (10), DETROIT (8), GLENDALE (1), HOUSTON(2), KANSAS CITY (2), NEW YORK (17), PHILADELPHIA (40), PITTSBURGH (22), SAN FRANCISCO (7), SEATTLE (1). DISTRIBUTORS IN PRINCIPAL CITIES.

NEW *DOME* COOLER

ONE OF THE BIG THREE OF 1948



Two-way Dome Cooler with air flow limited to two directions.



Standard Dome Cooler with air emitting in all directions.

The new, improved 1948 model of the Peerless Dome Cooler, the cooler that went to war and made a record for distinguished service! Here, with beautiful spun aluminum casing and the new Peerless Coil, is the proud successor to the 20,000 Dome Coolers that cooled the food for all U. S. Army Cantonments from the start of World War II. In the Dome Cooler, air from the refrigerator is drawn up in the center of the unit and discharged horizontally along fixture ceiling to drop down the side walls. The Dome Cooler is the ideal unit for maintaining high humidities in reach-in and walk-in coolers. Its installation is a simple operation, it occupies minimum space, and it is engineered for correct functioning and long life. Complete with built-in heat exchanger and suction spinner.

Model No.	List Price	Capacities B.T.U. per Hr. at Given T.D. Between Air and Refrigerant			Motor and Fan Characteristics				Overall Dimensions Including Motor			Connections		
		1"	10"	20"	Motor H.P.	R.P.M.	Fan Size	C.F.M. Capacity	Height	Width	Depth	Liquid	Suction	Drain
67	\$59.15	65	650	1300	1/100	1550	8	220	4 3/4	18	18	1/2	1/2	1/2
92	70.50	95	950	1900	1/100	1550	8	240	4 3/4	20	20	1/2	1/2	1/2
127	80.50	125	1250	2500	1/100	1550	10	360	4 3/4	22	22	1/2	1/2	1/2
227	111.45	225	2250	4500	1/30	1000	12	560	8	27	27	1/2	1/2	1/2
327	143.00	325	3250	6500	1/30	1000	12	520	8	27	27	1/2	1/2	1/2
457	196.00	450	4500	9000	1/30	1000	16	1050	8	31	31	1/2	3/4	1/2
607	235.00	600	6000	12000	1/30	1000	16	1000	8	34	34	1/2	3/4	1/2
907	285.00	900	9000	18000	1/6	1140	20	1800	13 1/2	43	43	1/2	3/4	1/2
1257	375.00	1250	12500	25000	1/6	1140	20	1700	13 1/2	46	46	1/2	3/4	1/2

ENGINEERING DATA ABOVE

FOR BOX TEMPERATURES ABOVE 32°
FOR USE WITH FREON, METHYL CHLORIDE AND SULPHUR AS REFRIGERANT



PEERLESS of AMERICA, Inc.

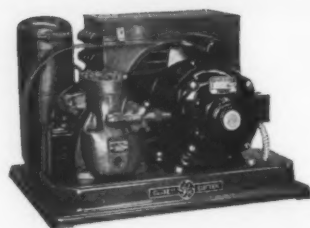
2901 LAWRENCE AVE.

CHICAGO 25, ILLINOIS, U. S. A.

New Features!

New Methods!

New Design!



HERE!..The New Line of Condensing Units, Type CW

Greater sales appeal and easier installation and maintenance were two of the most important considerations in the designing of General Electric's new line of condensing units for the commercial refrigeration field.

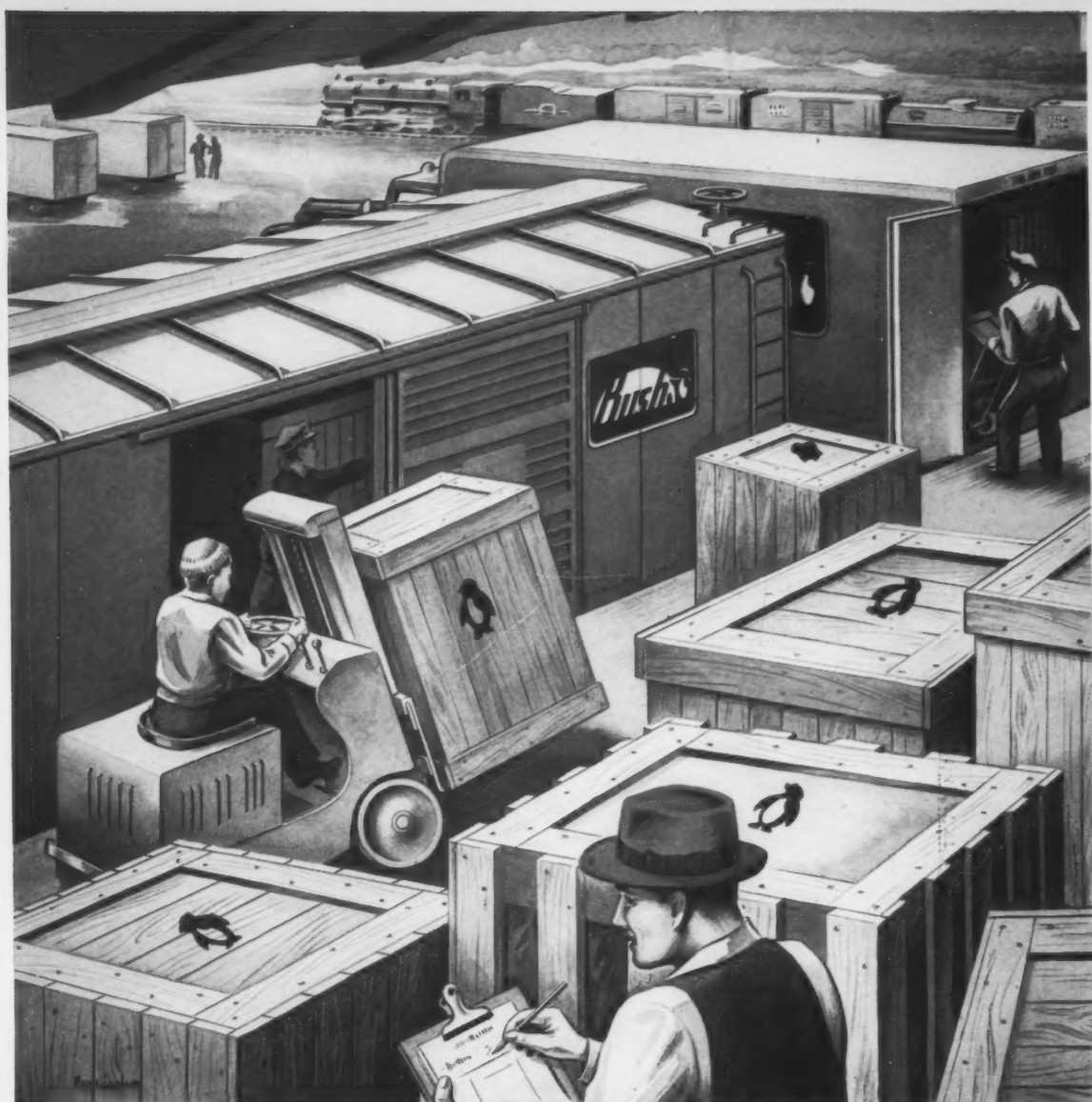
Including units from $\frac{3}{4}$ h. p. to $1\frac{1}{2}$ h. p., the new line features eight air cooled models and 4 water cooled models. This line actually meets the commercial market's requirements with a maximum capacity range integrated in three basic compressor sizes—*many vital parts of which are made to be interchangeable!*

In this new condensing unit line, G. E. has embodied many big condensing unit features that mean greater assurance of long life, dependability, lower-than-ordinary operating costs, and lower installation and service costs. Learn more about them by contacting your G-E representative today! *General Electric Company, Air Conditioning Department, Section C8144, Bloomfield, New Jersey*

LOOK AT THESE IMPORTANT G-E FEATURES:

1. Forced feed lubrication.
2. Counterbalanced crankshaft.
3. Oil sight glass which gives a positive check on operation of lubrication system.
4. Rotating balanced bellows shaft seal.
5. Thin valve plate for high volumetric efficiency and low operating cost.
6. Many interchangeable replacement parts.
7. Lead-plated copper gaskets for a better seal and easier servicing.
8. All units run-in tested under actual operating conditions before leaving factory.
9. Wide opening ring type valves of high-strength Swedish steel.

GENERAL  ELECTRIC
Refrigeration Equipment



Now Available

"RUSH DELIVERY!" You can say that again . . . and GET IT. Prompt shipments . . . no waiting on most items. Standard units available out of stock. Sounds good, doesn't it? And it IS good . . . for your profits. Let the new BUSH plant . . . the finest and most modern in the industry . . . help you get the jump on the best refrigeration and air conditioning jobs in your territory. When speed is a factor specify BUSH Heat Transfer Products. **NOW AVAILABLE** through leading wholesalers everywhere.

BUSH MANUFACTURING CO. • WEST HARTFORD 10, CONN.

APRIL, 1948



NEXT TO REFRIGERATION..

Evaporative Kooler-aire

is Best

COOLS • WASHES • CLEANS AND FILTERS 100% FRESH AIR

● If you have customers who can afford refrigerated air conditioning, by all means sell it to them. Sell them usAIRco Refrigerated Kooler-aire.

But there are hundreds in your own territory who can't afford refrigeration. Your own experience will substantiate this.

Yet these people desperately need Comfort Cooling. They need the crowd-pulling, customer-satisfying, climate of comfort cooling . . . to compete . . . to stay in business . . . to make a profit.

And you can use the extra volume and extra profit that small business is ready to place with a firm that can supply comfort cooling at a price they can afford.

Evaporative Kooler-aire is their dish . . . and your meat. And you should investigate

it now . . . find out how superior the 1948 models really are . . . how these pre-engineered packaged systems can be quickly and economically installed to give small theaters, super-markets, restaurants, bowling alleys, retail shops, stores and professional offices, comfort cooling they can afford to own and to operate.

Write Today for Dealer Details

See how Evaporative Kooler-aire fits into your selling program. How it enables you to cash in on sales that you might never make. Evaporative Kooler-aire does the job at lower costs . . . but with the same profit for you.

UNITED STATES AIR CONDITIONING CORPORATION

Como Avenue S. E. at 33rd St. • Minneapolis, Minnesota

Write today for details on Dealer Franchise



UNITED STATES AIR CONDITIONING CORPORATION
3358 Como Ave. S.E., Minneapolis, Minn.

I want to round out my line. Send me details on the 1948 Evaporative Kooler-aire Program.

NAME _____
ADDRESS _____
TOWN _____ STATE _____

CUT YOUR PRODUCTION COSTS



**with this time-saving
machine for**

**CUTTING,
FLARING,
TRIMMING**

**Copper and
Aluminum Tubing**

HERE'S a sturdy, well-built machine that has been tried and tested by many of the leading manufacturers of refrigeration and air conditioning units.

- ★ *No skill necessary to operate.*
- ★ *Cuts, Flares and Trims in one operation.*
- ★ *Tubing does not revolve.*
- ★ *Flares are spun and trimmed to a perfect fit.*

The machine will handle all sizes and lengths of tubing, and more than 5000 perfect flares can be turned out in eight hours of operation.

Send for free descriptive literature and prices . . . today!

THE C. J. UNGER MANUFACTURING COMPANY

Department D, Dayton 10, Ohio



CARRIER CONDENSING UNITS

- ★ HIGHLY EFFICIENT OIL SEPARATION
- ★ GENEROUS CONDENSER SURFACE
- ★ STATIC AND DYNAMIC BALANCE
- ★ LARGE VALVE AND PORT AREAS

Made for each other



CARRIER COLD DIFFUSERS

- ★ UNUSUALLY COMPACT DESIGN
- ★ ADVANCED TYPE REFRIGERANT CIRCUIT
- ★ NEW IMPROVED ALUMINUM FAN
- ★ LARGE COIL SURFACE AREA

Give customers the dollars-and-cents benefits of balanced refrigeration. Install one of Carrier's condensing units and a Carrier cold diffuser.

These dependable, efficient units are designed for teamwork. They're the only units of their kind where both are engineered by the same manufacturer. They provide better refrigeration at low cost.

For the owner, balanced refrigeration means greater protection for food

— less spoilage and shrinkage, less discoloration and flavor loss. It means fresher tasting food, better prices.

A precision-built condensing unit gives your customer the many exclusive features of Carrier refrigeration design — vapor-cushioned valves for long life, large condenser surface for operating economy, multiple V-belts for uninterrupted operation and many others. Carrier cold diffusers provide rapid cooling to cut food processing costs,

improved aluminum fan to insure ample air circulation, compact design to save expensive storage space. A simple but effective attachment provides water defrosting.

Back of every Carrier product stands an experienced staff of refrigeration engineers to help with installation and service problems. That's why it pays to sell refrigeration with a name — the Carrier name. Carrier Corporation, Syracuse, New York.

Carrier

AIR CONDITIONING • REFRIGERATION • INDUSTRIAL HEATING



ALWAYS

ALERT

TO GUARD
EVAPORATOR EFFICIENCY:

ALCO THERMO VALVES

The large diaphragm makes Alco Thermo Valves instantly responsive to slight changes in superheat.

- Precision-built for easy interchangeability of parts.
- Minimum moving parts for less friction, less wear.
- Rugged, corrosion-proof internal parts.
- Cupped diaphragm removes weld from flexing area—prevents loss of thermal charge.

All these features assure a sensitive control that gives dependable service year after year.

Wide choice of capacities: $\frac{1}{4}$ to 50 tons, "Freon-12", $\frac{1}{2}$ to 100 tons, methyl chloride. Multi-outlet valve gives choice of 2 to 36 outlets.

Get Bulletin 171 for single outlet, 180 for multi-outlet.

Available at your nearest Alco wholesaler.



Designers and Manufacturers
of Thermostatic Expansion
Valves; Evaporator Pressure
Regulators; Solenoid Valves;
Float Valves; Float Switches.

ALCO VALVE CO.

843 KINGSLAND AVE. • ST. LOUIS 5, MO.





CHASE[®] *Extra Soft* Refrigerator Service Tube in a new, more efficient package!

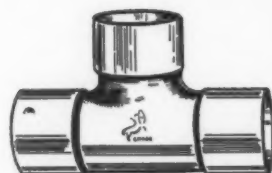
EXTRA soft in temper, Chase Copper Refrigerator Service Tube can be bent easily and flared by any of the usual methods. A new, positive end seal fits anywhere that the tube will fit, "locks out" dirt and moisture.

To make it easier for you to handle Chase Copper Tube, both in stock and on the job, a more efficient package has been designed.

•Reg. U. S. Pat. Off.

It has a large readable label with complete specifications. It saves shelf space. It can be reused, to keep cut coils clean and identified, ready for future use.

Next time, ask your parts distributor for Extra Soft Chase Copper Service Tube. Available in sizes from $\frac{1}{8}$ " to $\frac{3}{4}$ " in 50 and 100 ft. lengths. See if this isn't the handiest tube you've ever used.



COPPER TUBE FITTINGS—Chase offers a complete line of wrought copper fittings for refrigeration and air conditioning lines. Use them with Chase Copper Service Tube.

Chase

the Nation's Headquarters for
BRASS & COPPER

WATERBURY 91, CONNECTICUT

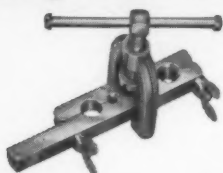
SUBSIDIARY OF KENNECOTT COPPER CORPORATION

THIS IS THE CHASE NETWORK...handiest way to buy brass

ALBANY! ATLANTA! BALTIMORE! BOSTON! CHICAGO! CINCINNATI! CLEVELAND! DETROIT! HOUSTON! INDIANAPOLIS! KANSAS CITY, MO. LOS ANGELES! MILWAUKEE! MINNEAPOLIS!
NEWARK! NEW ORLEANS! NEW YORK! PHILADELPHIA! PITTSBURGH! PROVIDENCE! ROCHESTER! SAN FRANCISCO! SEATTLE! ST. LOUIS! WATERBURY (Indicates Sales Office Only)

**MORE *New* BONNEY TOOLS
THAT MAKE JOBS EASIER!**

Flaring Tool—No. RF46



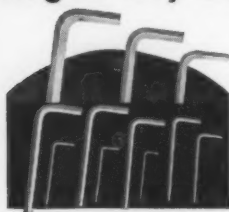
A "must" in every refrigeration man's tool kit. Produces clean, accurate flares due to precision machining. Made of heat treated Bonaloy steel for long, hard service on $\frac{1}{4}$ ", $\frac{5}{16}$ ", $\frac{3}{8}$ ", $\frac{1}{2}$ " and $\frac{5}{8}$ " tubing.

Offset Screw Driver Set—No. 0672



This set of 3 popular sizes of offset screw drivers will be used on almost every refrigeration job. They are made of alloy steel, heat treated and plated and have offset on each end in the same direction to eliminate danger of injuring hands.

Hexagon Key Set—No. 5



This set of 11 plated hex keys will fit all common sizes of hex socket cap and set screws. They are tough because they are made of heat treated alloy steel and their short arm makes them easy to use in close quarters.

These new tools, like all the tools in the complete Bonney line, are made to the highest standards of the industry for strength, long life and easy, handy use. Cut out and mail the coupon below for your copy of the complete new Bonney Catalog and the names and addresses of your nearby Bonney Tool Jobbers.

**BONNEY
TOOLS**

World's Finest

TOOLS

BONNEY FORGE & TOOL WORKS



ALLENTOWN, PA.

BONNEY FORGE & TOOL WORKS, ALLENTOWN, PA.

Please send me without charge, latest catalog showing
Bonney Tools and Tool Sets. **RI 248**

NAME _____

ADDRESS _____

CITY _____ ZONE _____ STATE _____



*Grand!**

The Grand Canyon of the Colorado River, in northern Arizona, is the greatest canyon on earth—200 miles long, eight to ten miles wide, more than a mile deep in many places. The bared rocks, in their riot of reds, buffs, greens, and white, represent geologic time from the oldest known to the present day. Discovered by Cardenas in 1541, it has been a National Park since 1919, a tourist magnet of great importance—and rightly called "the most sublime spectacle in the world."

**A favorite adjective employed by users to describe their Mills Condensing Units.*

Mills Condensing Units

Products of Mills Industries, Incorporated
4100 Fullerton Avenue, Chicago 39, Illinois

THE REFRIGERATION INDUSTRY

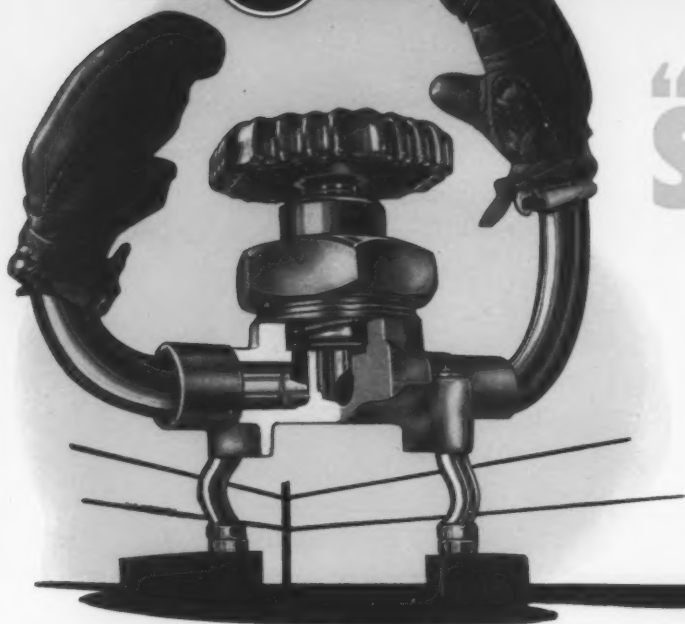
KEROTEST

presents

"SHORTY"

INLINE

The Mighty Mite of
all refrigerant valves!

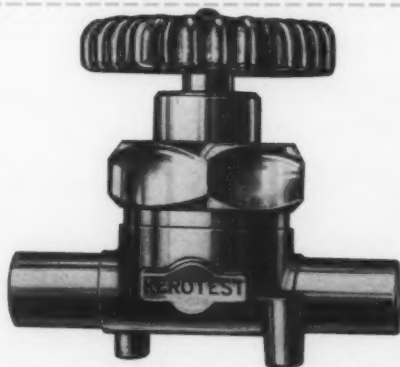
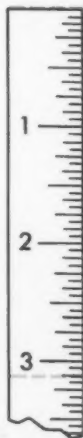


KEROTEST leads in design!

Always first with the valve designs that solve your problems, KEROTEST leads again with "Shorty" the new refrigerant valve that installs in even the most cramped places.

Streamlined, with ports in line and mounting feet made integral with the valve body, the new Kerotest R24 requires only $3\frac{1}{8}$ " of height when full open . . . the "Mighty Mite" refrigerant valve of the industry!

KEROTEST's famous diaphragm packless construction is combined with high efficiency flow characteristics and rugged construction that assures you of top operating performance and life-long dependability.



$3\frac{1}{8}$ " High When Fully Open

From mounting board to maximum stem extension only $3\frac{1}{8}$ " of height is required . . . the shortest diaphragm packless line valve on the market. It's a knockout in your clinches with tight places and a top performer for use in all your installations.

See your

KEROTEST

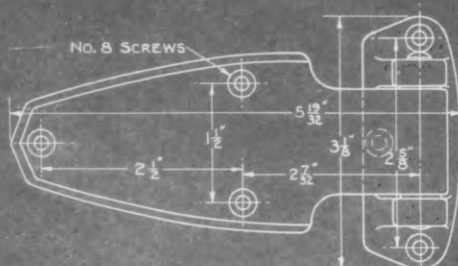
Wholesaler

KEROTEST MANUFACTURING CO.
PITTSBURGH 22, PA.

AMERICA'S FIRST NAME IN QUALITY VALVES



DUCK SOUP for SERVICE MEN



It's the easiest kind of extra money . . . replacing old, worn-out refrigerator hardware with sparkling new Grand Rapids Brass locks and hinges! Every service call spells extra-profit opportunity—a chance to double or triple your day's income. Our new installation manual tells how—gives simple, complete replacement instructions for any kind of job. See your jobber about a copy—or write direct for your free manual today!

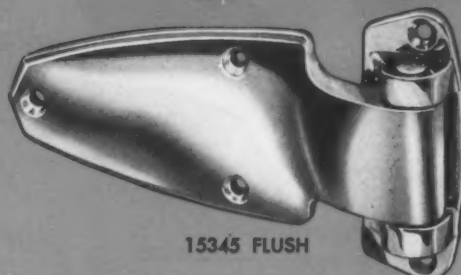


FREE
*Ask Your
Jobber*

If he can't
supply, write
us direct for
your copy.



15345



15345 FLUSH



15352 STOP

No. 15345 REVERSIBLE HINGE. The most widely useful replacement hinge in our line . . . available NOW from your jobber in a full range of offsets.

No. 15345 FLUSH HINGE for those popular flush doors.

No. 15352 STOP HINGE. When you need it, you need it bad! You can get it now from your jobber—with 105° or 135° Stop, in a full range of offsets.

DESIGNED TO FIT THE JOB. Above you'll see three versions of just one of the many hinges available in the Grand Rapids Brass line. Our new installation manual pictures many other hinges and locks—gives full information how to choose and order hardware for any replacement job. With this information in your kit, you can go to town. Get ALL the facts TODAY!

*by America's Quality Manufacturers
of Commercial Refrigeration Hardware*

Grand Rapids Brass Company

Makers of Dependable Refrigerator Hardware for over 40 Years

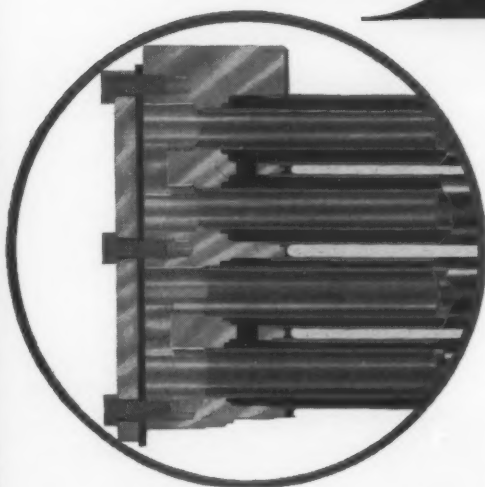
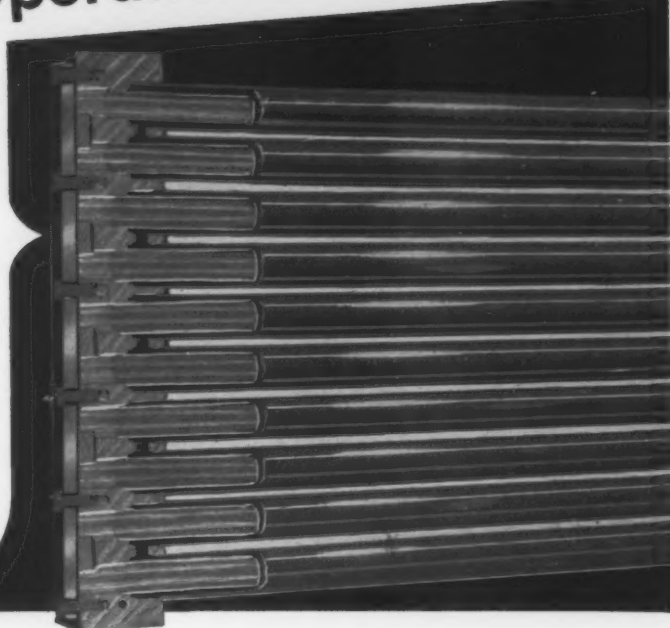
Grand Rapids 1, Michigan

Objective: **Operational Economy**

Answer:

**HALSTEAD &
MITCHELL'S**

New **TWO-
STAGE
CONDENSERS**



One of the surest ways to obtain economical condenser operation is to get the maximum heat-transfer capacity by taking the most heat from the refrigerant in the shortest period of time.

Halstead & Mitchell's New Two-Stage Condenser design makes possible greater concentration of copper water-tube surfaces in the lower portion of the condenser. The smaller top water tubes allow ample refrigerant space, thereby eliminating resistance or pressure drop and affording the lowest possible head pressures.

The new Two-Stage design improves refrigerant velocity and increases heat-transfer efficiency. Thus, with this construction, greater heat-transfer values are affected.

**HM Condensers available from ½ to 10 H. P.
from wholesalers in principal cities.**

HM Cleanable Condensers can be maintained at "new-unit" efficiency and economy by regular and continued use of a standard cleaning tool. Water tubes are accessible at both ends—just loosen a few bolts and slide the end plates off—and there is nothing to obstruct the simple cleaning operation. The cleaning tool HAS to clean! Each quick cleaning operation takes only minutes, yet adds months and years of the most efficient and economical service to the life of the condenser.


Halstead & Mitchell

Wholesalers in principal cities Write for descriptive literature.

OFFICES: Bessemer Building, Pittsburgh 22, Pa.

Comfort is Profitable



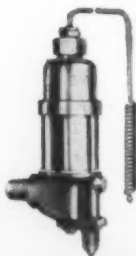
Desire for comfort has been one of the great driving forces of civilization. As soon as man assures himself enough to eat, he sets about improving his comfort. He is willing to spend plenty of money to do it. That desire for comfort can make profit for you and for the users of air conditioning.

Soon people will be flocking to air conditioned stores, movies, taverns, etc. Those who can afford it will be thinking about air conditioning for homes and offices.

Start now to sell air conditioning, and remember "Detroit" Thermostatic Expansion Valves provide the most satisfactory, trouble-free refrigerant control.

Available in the desired capacities, they have the dependability and durability to give long service without attention.

"Detroit" Thermostatic Expansion Valves are gas-charged—which gives them close regulation—guards against motor overload. Often, gas charging makes possible use of a smaller motor, since it does not have to work against excessive pressure during the pulldown period. Gas-charged valves balance the system more quickly when starting up, insuring fast, positive action.



"DETROIT" No. 673

Thermostatic Expansion Valve

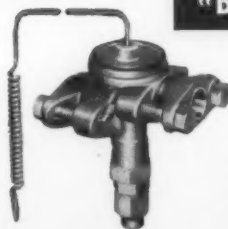
For many years, the standard of the air conditioning and refrigeration industry. Reliability proved by long service. Orifice sizes $\frac{1}{4}$ " to $\frac{3}{8}$ " with capacities up to $3\frac{1}{2}$ tons Freon-12 and 6 tons Methyl.



"DETROIT" No. 899

Thermostatic Expansion Valve

An air conditioning or commercial valve of intermediate capacity. Incorporates the features of single diaphragm construction and gas charging. Forged union connections are compact and make removal easy. Capacity 1.5 to 6 tons Freon-12.



"DETROIT" No. 787

Thermostatic Expansion Valve

Representative of the "Detroit" large capacity line. No. 786 is rated 3 to 6 tons ... No. 787—6 to 11 tons ... No. 788—12 to 20 tons Freon-12. These valves have external equalizer connection and can be furnished with No. 790 distributor with 2 to 18 outlets for multiple distribution.

DETROIT LUBRICATOR COMPANY

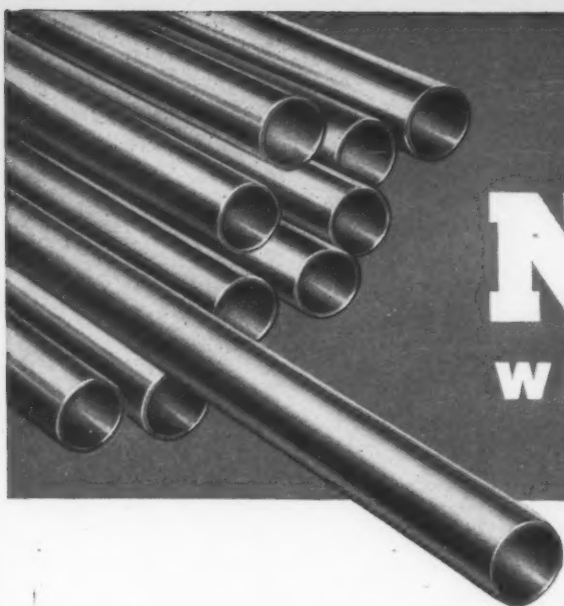


General Offices: 5900 TRUMBULL AVENUE, DETROIT 8, MICHIGAN

DIVISION OF AMERICAN RADIATOR & STANDARD SANITARY CORPORATION

Canadian Representatives — RAILWAY AND ENGINEERING SPECIALTIES LIMITED, MONTREAL, TORONTO, WINNIPEG

"Detroit" Heating and Refrigeration Controls • Engine Safety Controls • Float Valves and Oil Burner Accessories • "Detroit" Expansion Valves and Refrigeration Accessories • Stationary and Locomotive Lubricators



NIBCO

WROT FITTINGS

● Made from the same seamless tubes with which they are used, NIBCO fittings match perfectly in copper tube installations. They are formed—without seam or weld—in precision dies by patented NIBCO processes. That's the secret of greater strength, smoother design and easier assembly. Your customers will be proud of finished jobs made with NIBCO fittings and you'll be pleased with the better profit that goes with their speed of installation. The NIBCO line includes fittings, valves, adapters—everything you need to go with the tube.



**NORTHERN INDIANA
BRASS CO.**
Elkhart, Indiana

★ *high quality valves
and fittings since 1904*

SEND FOR CATALOG E

This manual helps you in specifying and ordering the newest and best fittings and valves for copper plumbing. Mail coupon for your copy.

NORTHERN INDIANA BRASS CO.

414 Plum St., Elkhart, Indiana

Without obligation please send copy of Catalog E.

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you can fill MORE V-Belt orders with this carefully selected assortment.

Gilmer
#355

**V-Belt Assortment
of
50 Most Popular
sizes**



**DESIGNED for USE
in SHOP or TRUCK**

Here's a V-Belt assortment that's a sure profit maker. This is being proved every day in shops and stores and service trucks throughout the country. It will bring good profits to you. For among the 50 Gilmer V-Belts are all the most frequently requested sizes...covering hundreds of applications.

The Gilmer #355 V-Belt Assortment gives you, in one compact unit, the foundation of

a complete V-Belt department...in minimum space...with a minimum investment...and with all the valuable service aids shown at the right.

You can sell Gilmer V-Belts with confidence, knowing that you are giving your customers the best belts money can buy. Gilmer V-Belts are noted for accurate fit, firm grip and long life. They are made in all standard refrigerator sizes.

Your Gilmer Distributor carries a complete stock of replacement belts. Order the #355 Assortment from him today, or write direct for further particulars.

BUY THROUGH YOUR GILMER DISTRIBUTOR

L. H. GILMER COMPANY, Tacony, Philadelphia 35, Pa.
Division of United States Rubber Company

*Gilmer #355 Assortment includes all these . . .



1-2 50 Assorted V-Belts
8-Hook Metal Wall Rack



3 Gilmer Hand-meter (patented) for quick measuring of belts



4 Gilmer V-Belt Catalog, "America's Belt Bible"



5 Inventory Card



6 Window Display Card



THE REFRIGERATION INDUSTRY

The Ansul Research Staff

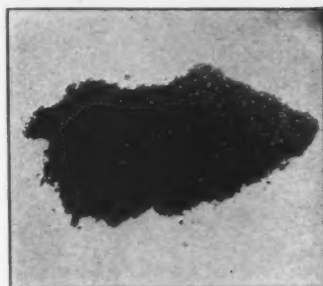
REPORTS ON:

SLUDGES

Approximately 90% of the sludges produced in refrigerating systems are due to moisture. The exact cause can always be determined by analysis, but the appearance of the sludge (see photos) is usually indicative of the cause.

SLUDGE DERIVED FROM MOISTURE—If water is present in a machine, the nature of the sludge depends upon the type of refrigerant and length of time the water is present. All refrigerants . . . sulfur dioxide, methyl chloride, Carrene and "Freon-12" . . . react with water to produce corrosion products characteristic of each. To prevent sludge, the amount of water present in a refrigerating system must be small enough to avoid ice separation and corrosion. For "Freon-12" and methyl chloride, a quantity of water approximately .05% by weight will cause corrosion; the limit is somewhat higher for sulfur dioxide.

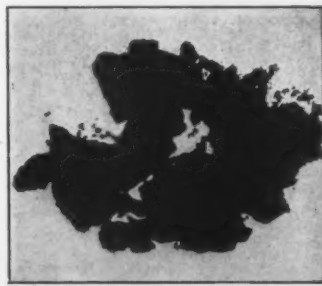
SLUDGE DERIVED FROM OILS—Oil sludges are characterized by total or partial solubility in carbon tetrachloride, gasoline and similar solvents. It is generally presumed that oil sludges are due to two causes: (1) an interaction between the unsaturated constituents of the oil and the refrigerant; (2) a breakdown of the oil due to heat, oxidation, friction, etc.



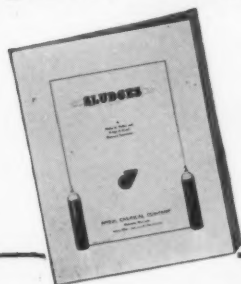
GRANULAR SLUDGE . . . due to moisture



FLUID SLUDGE . . . due to oil



HARD SLUDGE . . . due to moisture and oil



SEND FOR "SLUDGES"
by
Ansul Research Staff

A detailed analysis of the refrigeration sludge problem.

ANSUL WHOLESALERS are ready and equipped to render an intelligent, co-operative service to refrigeration engineers and maintenance men on problems which arise from time-to-time in the operation of refrigerating systems.

FOR EXAMPLE:

The Ansul Research staff has developed a method for analysis of sludges. This analysis usually gives the answer as to the origin of the sludge. If you have a sludge problem, send a sample of the sludge with pertinent information to the Ansul Research Laboratory through your Ansul wholesaler. An analysis report will be made for you without charge.

*REG. U. S. PAT. OFF.



ANSUL REFRIGERANTS ARE AVAILABLE AT LEADING WHOLESALERS EVERYWHERE

ANSUL CHEMICAL COMPANY

REFRIGERATION DIVISION, MARINETTE, WISCONSIN

DISTRIBUTORS FOR KINETIC'S "FREON-11," "FREON-12," "FREON-21," "FREON-22" AND "FREON-113"

Check your liquid line ...



See for yourself ... **THROUGH THE MUELLER
DOUBLE PORT LIQUID INDICATOR**

**"THE BUBBLES WILL TELL YOU
WHEN THE LIQUID IS LOW"**

The improved design of our liquid indicators is effective assurance against refrigerant leakage around the sight glass. The sight glass is sealed into the forged brass body by a heavy Neoprene gasket which, in turn, is compressed by a packing gland, which forces the pliable gasket along the sides of the glass and produces a perfect seal.

Mueller Brass Co. Liquid Indicators are made in a complete range of styles and sizes. The seal cap type may be installed where light conditions are favorable. Where the light is poor, we recommend the use of our double port liquid indicators illustrated here. By flashing a light through one port, the exact condition of the refrigerant may be determined through the other port.

The new design of the compression gland permits the use of standard wrenches for tightening.



**Double Port
Liquid Indicator**

MUELLER BRASS CO.
PORT HURON, MICHIGAN

NEW!

LIGHTWEIGHT!

COMPACT!

FLEXIBLE!

Announcing!

THE NEW



**CENTRAL PLANT
AIR CONDITIONER**



HERE'S Better Air Conditioning for your clients in a single convenient package—the G-E Central Plant Air Conditioner.

This General Electric unit is planned and integrated as a single unit... with all components pre-engineered, pre-fabricated, pre-matched. "Jig-saw puzzle" assembly of uncoordinated parts is eliminated.

The smartly designed new unit shares with the regular G-E horizontal model the features of attractive appearance... quiet, smooth operation... dependable, consistent performance. It

is extremely flexible and can be assembled in 12 different combinations to meet any space requirements. Coil connections can be made at either side.

These units have been designed specifically to make inspection and maintenance extremely easy. Your local General Electric Air Conditioning expert will be glad to work with you in planning the installation of these G-E Central Plant Air Conditioners.

*General Electric Company, Air Conditioning
Department, Section A8148, Bloomfield, N. J.*

GENERAL  ELECTRIC

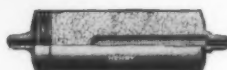
Better Air Conditioning

H

ave you noticed when refrigeration men get together and discuss among themselves the merits of various refrigeration and air conditioning products that those bearing the Henry name are always held in high regard?

• Patented features available in most Henry Driers include dispersion tube which prevents channelling in the dehydrant; the Abso-Dry Process which permits a drier to prove its dryness with a hiss; the compression spring which minimizes self-abrading of dehydrant; and the distortion proof flange on larger models which absorbs strains caused by excessive or uneven tightening of bolts. It costs no more to take advantage of these Henry features.

DRIERS

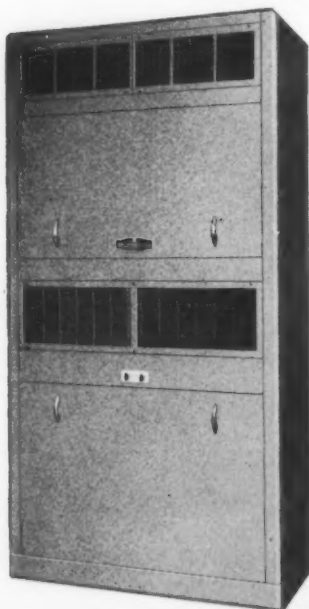


Sold by leading wholesalers

HENRY VALVE COMPANY

Control Devices, Valves, Driers, Strainers and Accessories for Refrigeration and Air Conditioning and Industrial Applications.

3260 W. Grand Ave., Chicago 51, Ill. • Cable: HEVALCO Chicago



Easy **TO SELL
TO INSTALL
TO SERVICE**

• • • GR Unit Air Conditioners

From their first look at the attractive cabinet, your customers will like GR Unit Air Conditioners. They are compact and save valuable floor space. They operate quietly because of sound mechanical design and complete acoustic insulation. They are economical and dependable—backed by 30 years of experience.

Installation is easy because the unit is completely self-contained. Servicing is simplified—all parts are readily accessible.

Find out more about these popular "packaged" air conditioners, and about the complete GR Air Conditioning line. If your territory is still open, and if you have the necessary sales and service facilities, an unusual opportunity awaits you.

• 3-ton Model 3NAC and the 5-ton Model 5NAC GR Unit Air Conditioners provide year around air filtration and ventilation, also summer cooling and dehumidifying. A heating coil may be added if desired.



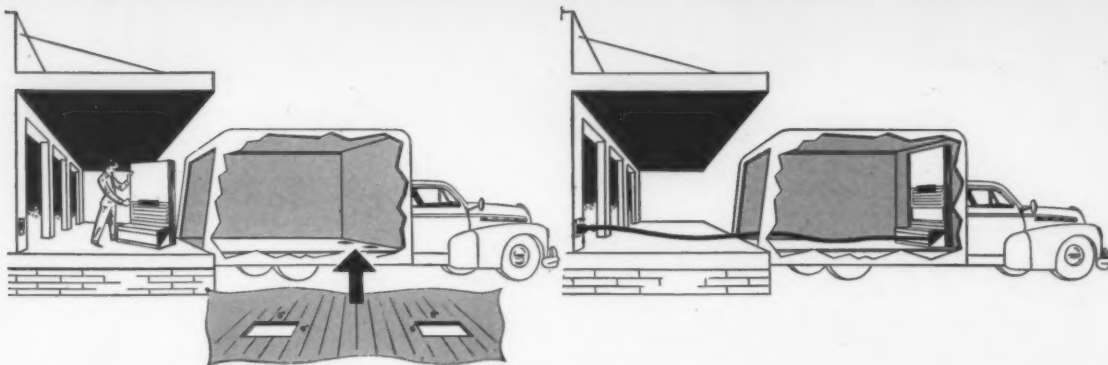
GENERAL REFRIGERATION

DIVISION

YATES-AMERICAN MACHINE CO., Beloit, Wisconsin



Here's NEW CONVENIENCE in Truck Refrigeration



A complete, packaged TRUCK REFRIGERATION UNIT that you can install yourself

The utmost simplicity of the new Kold-Hold Packaged Refrigeration Unit pays dividends for you in lower Truck Refrigeration costs. Just push the Unit into the truck, bolt it in place and it's ready for operation.

The cooling cycle is started by merely plugging-in to any 110 volt electric outlet. Thus, you can build refrigeration in the truck wherever electricity is available. The "Hold-Over" Plates in the unit will maintain the predetermined low temperature of the truck throughout a day's deliveries.

What Is It? A complete assembly of all units necessary to adequately refrigerate an average truck 40° to 50° temperature for a day's run.

How Does It Work? Unit is shipped complete, ready to install. Push into truck, cut holes for air intake and discharge, bolt to floor and plug into electrical outlet.

Is Body Work Required? No. The unit is adjustable to fit most any truck. No "dog house" for compressor, no change of body or expensive installations are required.

How Long To Freeze Plates? Ample plate refrigeration for extreme weather conditions.

How About Long Runs? Truck Contents are easily protected on runs of 2 days or longer by simply plugging-in at any gas station, garage or overnight stop.

What Is Operating Cost? The 1 hp. compressor has capacity of 42,000 BTU's in 10 hours and operates for a few cents a day. Any refrigeration man can service if ever necessary.

How Does It Compare With Ice? The Kold-Hold Unit provides a more dependable refrigeration at less cost. There is no slime or bother.

Is This New? It is new only in that it is a packaged unit. Kold-Hold Refrigeration Plates have given satisfactory operation for hundreds of users for over 15 years.



New bulletin describes the many advantages of Kold-Hold PACKAGED Truck Refrigeration. Write for your copy today.

KOLD-HOLD

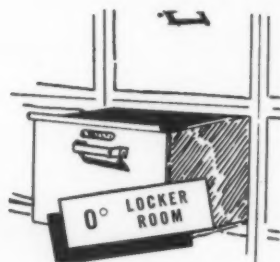
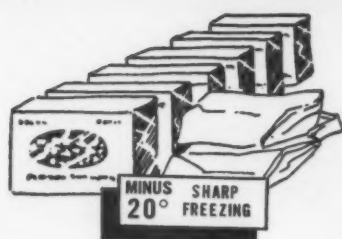
Jobbers in Principal Cities

KOLD-HOLD MANUFACTURING COMPANY - 503 E. HAZEL ST., LANSING 4, MICHIGAN

APRIL, 1948

PROCESSING **TRANSPORTATION**
protects every step of the way

STORAGE



Defrosting
IS NO PROBLEM WITH

THERMOBANK

by **KRAMER**

*Because only THERMOBANK
Keeps Coils Frost-Free
Automatically
at Any Temperature*

without { LABOR
ATTENTION
ELECTRIC HEATERS
BRINE OR WATER SPRAYS

WRITE FOR
BULLETIN R124

KRAMER TRENTON CO. *Trenton 5, N. J.*

IN PITTSBURGH-- in Cities throughout America

Wagner Quality Motors help control the "weather"

Countless Wagner Motors are on the job, day and night—summer and winter—to help people work and play in year 'round comfort. The rapidly growing business of controlling the "weather" through air-conditioning, heating, and ventilating has created a demand for motors that provide quiet, troublefree, *dependable* power. Wagner Engineers have met this demand and Wagner Motors have played an important part in the development of this tremendous industry.

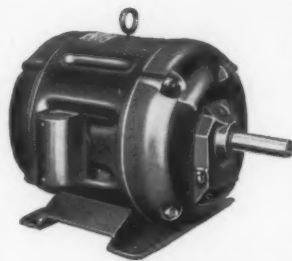
Wagner builds motors in types and sizes for a wide range of applications. Maximum service at low cost has made Wagner Quality Motors famous for over 50 years. Whatever your job, a Wagner Motor will handle it efficiently and economically. Quick, convenient, nationwide service facilities are available to users of Wagner Motors.

Ask any of our twenty-nine branch offices, located in principal cities and manned by versatile field engineers, for advice on any motor application.

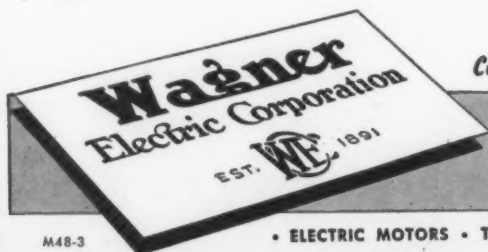
Write for Bulletin MU-185 for information on the complete line of Wagner Motors.

Wagner Electric Corporation

6442 PLYMOUTH AVE., ST. LOUIS 14, MO., U. S. A.



Regardless of what your motor requirements may be—large motors... small motors... Wagner makes them all. The motor illustrated is typical of the Wagner line of polyphase and single phase motors. Choose a Wagner motor for your next installation.



Consult Wagner Engineers on all Electric Motor Problems



• ELECTRIC MOTORS • TRANSFORMERS • INDUSTRIAL BRAKES • AUTOMOTIVE PRODUCTS •

M48-3

APRIL, 1948

27

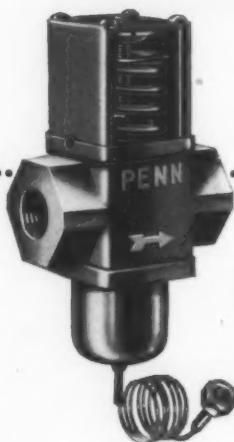
Penn Series 221 Solenoid Valves perform dependably in a wide variety of refrigeration applications.



Penn Cooling Thermostat is recommended for applications where close and accurate temperature regulation are required.



Penn 270 Series Refrigeration Controls incorporate 2-pole construction and a direct-reading calibrated scale which shows both cut-in and cut-out points.



Penn Series 246 Water Valves are built in threaded and flanged styles and in sizes from $\frac{1}{2}$ " to 2 $\frac{1}{2}$ ".

SWITCH TO

Penn

FOR DEPENDABILITY

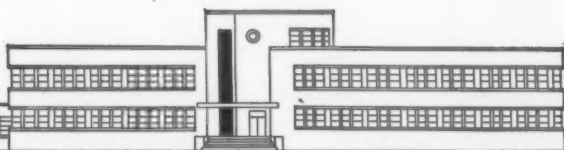
Precision built for accuracy and long life, Penn refrigeration and air conditioning controls deliver the dependable service which satisfies your customers, protects your profits. There are Penn Controls for all types of temperature and pressure applications.

Featured in the line is the new 270 Series Penn Control, the first and only one in these fields to have a load-carrying two-pole switch. The 270 is versatile as well as dependable—it can control multiple refrigeration systems, two separate load circuits and (where protec-

tion is provided against single phasing) it controls polyphase motors of 3 h. p. and under without the use of line starters.

Switch to Penn for the satisfaction and profit opportunity which comes with dependable control performance. Ask your wholesaler for information on Penn's complete line of refrigeration controls or write to **Penn Electric Switch Co., Goshen, Indiana**. Export Division: 13 E. 40th St., New York 16, U.S.A. In Canada, Penn Controls, Ltd., Toronto, Ontario.

Penn



AUTOMATIC CONTROLS

FOR HEATING, REFRIGERATION, AIR CONDITIONING, ENGINES, PUMPS AND AIR COMPRESSORS

RTU

News • Laws • Trends

● **New Show Site for 1949.** Unofficial word is that the next All-Industry Refrigeration & Air Conditioning Exposition will be held in the Atlantic City Auditorium during the week of November 14, 1949. Selection of Chicago as the site for the Show was considered, but it is reported that hotels there were unable to guarantee enough rooms to take care of anticipated needs. It is said Atlantic City has guaranteed over 3,000 rooms for the event.

Official attendance figures from the 1948 Show reveal a total registration of 9,563, including 9,396 from the U. S., 126 from Canada, and 41 from other countries. "Other countries" covered seven registrants from Cuba, five each from Mexico and Puerto Rico, four from France, and three each from Hawaii and India.

● **Making Your Equipment "Talk."** Commercial refrigerators, display cases, freezers and other pieces of equipment can actually "speak for themselves" by means of a recently developed magnetic paper tape playback machine known as Audiad, produced by Magnecord, Inc., Chicago.

It works this way:

As the customer opens the door of the refrigerator cabinet, for example, he hears a pleasant voice giving him a sales message on the uses and advantages of the equipment. Messages can be changed daily, if desired, by erasing the old message and recording a new one. The Audiad can be started automatically by breaking a beam of light, pushing a button, or any of the many other standard methods.

The unit plays messages from 5 seconds to one minute in duration, over and over, or it will play a multiple of messages totaling one minute, stopping automatically after each short message.

● **Sees Big Water Cooler Market.** With the proper industry effort, water cooler sales can approach 200,000 units in 1948, believes C. M. Cordley, president of Cordley & Hayes, New York City. The announced figure of approximately 100,000 units for the field, Mr. Cordley thinks, is a very conservative estimate.

His estimate is based on the fact that the past few years have not been normal, due to reconversion, shortage of steel, and shortage of component parts. "Many, many electric water coolers need replacing and there is still very much of a virgin market which, up to now, we have

not cultivated," he asserts. "The electric water cooler is now ready to emerge as a major appliance."

Both Cordley & Hayes and Ebco Mfg. Co., another leading water cooler maker, have ambitious sales and promotional campaigns under way for this year.

● **Kenmore-Tecumseh Tie-Up.** Kenmore Machine Products, Inc., of Lyons, N. Y., and Tecumseh Products Co. have made an agreement under which Kenmore will purchase Tecumseh compressors and sell them under the "Chieftain" trade name to national refrigeration wholesalers, according to L. W. Larsen, Tecumseh's assistant sales manager.

Compressors to be purchased by Kenmore include the 1/6 hp unit, 1/4 hp units in a single and twin cylinder models, the 1/3 hp unit, the 1/2 hp twin, and the 1/2, 3/4 and 1 cylinder units for both self-contained and remote applications. L. C. Smith is president and J. E. Russell sales manager of Kenmore.

● **A Year-Around Sales Job.** "The future of the air conditioning business will be immeasurably strengthened and stabilized if seasonal buying is discouraged and equipment sales are established on a steady, year-around basis," says W. F. Switzer, Commercial Sales manager for Frigidaire.

Normal spring buying rushes, Mr. Switzer believes, cause difficulties that often lead to user dissatisfaction; one of the most pertinent examples is the lengthy wait, in many cases, to have the equipment installed. When warmer weather comes, the customer who's still waiting for his equipment sees a good share of the benefits of the installation dwindling away.

By making a year-around job of selling air conditioning, dealers can give their prospective customers more thorough service, and a better job, Mr. Switzer feels. Main reason more equipment isn't sold during the fall and winter is simply because dealers wait until warmer weather before they go after it.

● **Joint REMA-RSES Conferences Start.** The first in a series of educational exhibits and conferences sponsored jointly by Refrigeration Equipment Manufacturers Association and Refrigeration Service Engineers Society will be held in the Palace Hotel, San Francisco, April 30 and May 1 and 2, in conjunction with the annual convention of the California Association of the Refrigeration Service Engineers Society.

It will be a new kind of show, with the emphasis on educational exhibits and not sales. Each exhibitor is limited to one booth, and all booths will be practically the same in size. Exhibits will feature cutaway models, sectional drawings, motion pictures and operating models.

Exhibits will be open from noon to 10 p.m. on April 30, from noon to 6 p.m. on May 1, and from noon to 5 p.m. on May 2. Technical meetings will take up the forenoons of all three days. Similar conferences already are scheduled for the New England region (at Boston) and the North Central States (at Chicago) in the fall, with one scheduled for the South early in 1949.

Problems Into Profits...

... that's the modern-day alchemy practiced by D. M. Thomas as this Augusta, Ga. refrigeration man helps "the little fellow" cure his cooling headaches

By Robert A. Latimer

THE ABILITY to fit refrigeration to a specific job, no matter how small a contract is involved, has created many new markets for D. M. Thomas Refrigeration Sales & Service Co., sales and service outlet for Frigidaire, Tyler, and General Electric commercial refrigeration equipment down in Augusta, Ga.

D. M. Thomas, who personally heads up this enterprising firm, believes in giving the same service to "the little fellow" as to the large-scale commercial users whose business he also handles. As a result, almost every grocer, drugstore operator, butcher, or small restaurant owner in the city has come to him at one time or another seeking the solution to some peculiar refrigeration problem. And invariably Thomas has been able to come up with the answer.

A typical example of the way in which this firm effectively utilizes "custom tailored" applications of cooling equipment as a means of building goodwill among its customers occurred when the owners of the Sunshine Bakery, a brand new retail establishment, complained that a 10x8-foot walk-in refrigerator built for them did not maintain the proper temperature.

When the salesman for the Thomas firm investigated the situation he found that the bakery employees were entering the walk-in cooler as often as 150 times a day, which of course was imposing an unduly heavy load on the compressor. The salesman immediately suggested the construction of two reach-in doors in the side

of the walk-in refrigerator, with a "vestibule" arrangement to prevent the cold air from leaking out of the entire cooler when these smaller doors were opened.

The baker promptly agreed to this proposal, and so two 28x32-inch doors were cut through the cooler wall. A galvanized metal enclosure then was erected around the portion of the cooler into which these reach-

in doors gave access, in order to provide a separate compartment for the storage of fast-moving items of bakery goods.

The result of this installation: immediate satisfaction. The proof: the baker later ordered three more refrigeration installations from the Thomas firm. Similar "specialty work" is winning friends for Thomas all through the territory which his company serves.

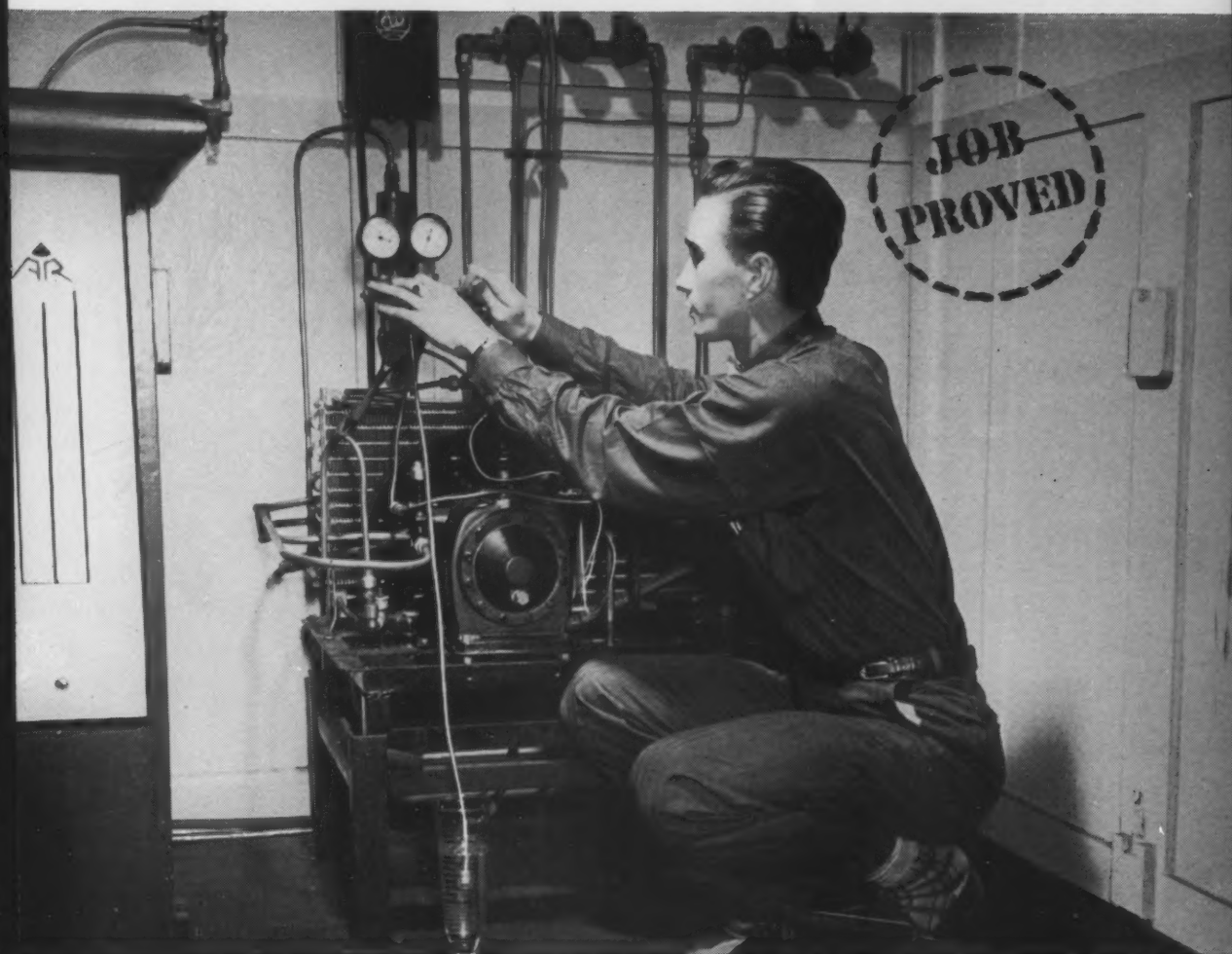
As this instance indicates, Thomas concentrates for the most part upon sales to the relatively small users of commercial refrigeration equipment, although he certainly doesn't ignore the large volume buyers. "We are equipped to handle any type of com-

Continued on page 57

Typical of the custom-built contracting in which the Thomas firm specializes is this installation in a small retail bakery. These two access doors were cut into the side of the store's walk-in cooler to minimize the heat loss resulting from frequent opening of the cooler's main door.



Tops for Stopping Wax Troubles



SUNISO REFRIGERATION OILS...

Shown by Extensive Tests to Have Lower Wax Separation Points

Hundreds of leading servicemen give their customers the highest possible assurance of freedom from wax or wax troubles by standardizing on Suniso, the refrigerating industry's leading lubricating oils.

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Suniso Refrigeration Oils are highly stable and assure long, trouble-free service. They resist chemical combination with "Freon" or other modern refrigerants. No wonder that—according to recent estimates—more Suniso "Job Proved" Oils are used by equipment manufacturers than all other brands combined.

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U.C. hermetic condens-
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COMPLETE LINE*

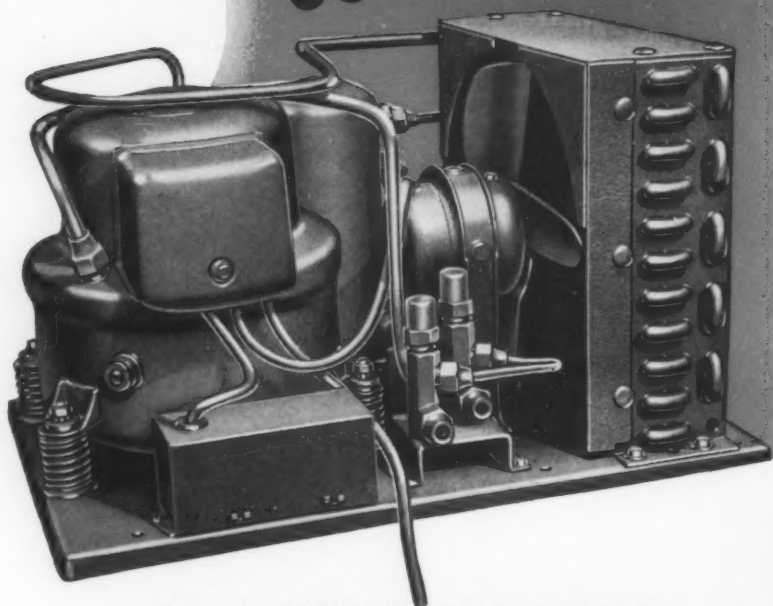
of hermetic condensing
units ranging from $\frac{1}{8}$
H.P. to $\frac{3}{4}$ H.P.

YOUR CHOICE

of U.C. Hermetic con-
densing units for capil-
lary tube or expansion
valve systems.

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This is the $\frac{1}{2}$ H. P. Universal Cooler Hermetic
Condensing unit with a capacitor type motor.

*F-22 Refrigerant? Units with this refrigerant now available for special applications.

HERMETICS

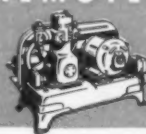


1/8 H.P.

TO 3/4 H.P.

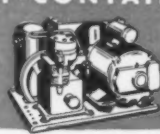
1/4 H.P.

REMOTES



TO 15 H.P.

SELF-CONTAINED



1/6 H.P.

TO 3/4 H.P.

UNIVERSAL COOLER



DIVISION INTERNATIONAL DETROLA CORPORATION
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MOISTURE IN THE REFRIGERATION SYSTEM

ITS EFFECTS AND MEANS OF ELIMINATION

By Charles H. Boylan

Sales Engineer
The Weatherhead Co.

THE PRESENCE of moisture in the refrigeration system has always been extremely critical, and has constituted the biggest headache in the industry. It has become more vital with the advent of low temperature refrigeration in the field of food product freezing.

This article will attempt to outline the various sources of moisture, the effects of moisture, and the methods currently used for its elimination. It is offered as a service principally to those men actually engaged in the making of field installations where controlled methods of cleaning and dehydration are not available.

One big source of moisture is air. The system may extract moisture from the air by adsorption and by condensation. The adsorption results from mere exposure of the porous surfaces of the metal in the refrigeration machine, as these pores will actually trap and hold molecules of water.

Condensation occurs when, as a result of changing temperatures, air comes in contact with surfaces that are below its dew point temperature.

Water itself may get into the system. Pressure vessels are usually tested hygrostatically. Coils and other parts are tested for leaks by immersion in tanks of water, and a few drops are apt to get in during handling.

Another source of moisture is the gas flame used in soldering or welding parts of the refrigeration unit. Water vapor is a product of combustion of gas, and it is difficult to

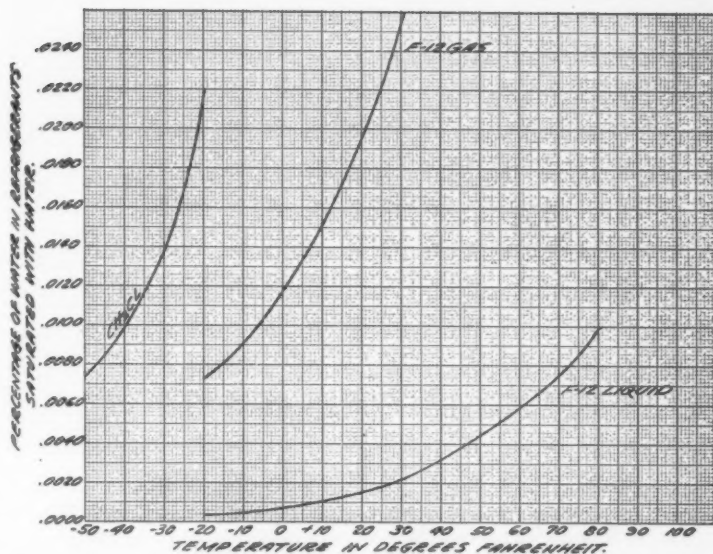


Fig. 1—This graph shows the solubility of water in methyl chloride, Freon-12 gas, and Freon-12 liquid. The horizontal scale indicates temperature readings in degrees Fahrenheit and the vertical scale indicates the percentage of water by weight.

keep all of this vapor out of the system. Soldering fluxes are usually hygroscopic and carry or attract considerable moisture. Liquid fluxes are watery solutions and introduce moisture directly.

Still another source of moisture may be the refrigerant itself. Figure 1 shows the solubility of water in methyl chloride, Freon-12 gas, and Freon-12 liquid. The horizontal scale indicates temperature readings in degrees Fahrenheit and the vertical scale indicates the percentage of water by weight. The percentage of water by weight can be read directly from this scale in parts per million. The percentage figure .0020 can be read directly as 20 parts per million.

It can be noticed on these curves

that at -20° F, which point the evaporating temperature in a freezing cabinet often approaches, methyl chloride will hold 220 p.p.m. As methyl chloride is usually supplied by the manufacturers with a moisture content of 80 p.p.m., it could pick up and hold a slight amount of moisture without creating difficulties.

However, in the case of Freon-12, which is supplied by the manufacturers with a moisture content of 10 p.p.m. and which in its liquid phase will only hold approximately 3½ p.p.m. at -20° F, any pick-up of moisture by this refrigerant would create possible difficulties.

This moisture pick-up by the refrigerant could be made in the refilling of cylinders where the receiv-

ing cylinder may not have been thoroughly dried.

It will also be noted from these curves that Freon gas will hold much more moisture than the Freon liquid, which means that in the event moisture in the evaporator freezes to form small particles of ice it will not remain as ice but will sublime, that is, go directly from the solid to the gaseous state, and the water vapor will again enter the refrigerant circuit.

Lubricating oil is also hygroscopic, and if it is exposed to the air it will absorb moisture and carry it into the system.

Effects of Moisture

The effects of an excess of moisture in the refrigeration system can be enumerated as follows:

- (a) Formation of ice in the expansion valve or other metering device.
 - (b) Formation of corrosion forming compounds which attack the compressor parts and refrigerant control devices.
 - (c) Copper plating, valve etching, and valve breakage.
 - (d) Formation of sludge which clogs the strainers and dryers.
- Moisture can be removed by the following four generally used methods.

- (a) Oven or radiant lamp baking.
- (b) Flushing with dehydrated air.
- (c) Evacuation.
- (d) Chemical dehydration.

The first three of these methods are currently used by manufacturers who have the necessary plant equipment, but of all four methods only evacuation and chemical dehydration are practical for field installations.

Dehydration by Baking

In plants devoted to the manufacturing of household refrigerators or low temperature freezing cabinets, where the dehydration is under the manufacturers control, extreme care is taken to insure a satisfactorily dry system.

The hermetic compressor for these applications is separately baked while being subjected to a vacuum of from 50 to 200 microns for a period upward to 8 hours time, depending upon the heating method employed. The component parts of the assembly—

consisting of discharge tube, condenser, capillary tube, evaporator, and suction line tube—are usually baked prior to the final assembly. The completed assembly is again subjected to this baking process while under an extremely low vacuum to insure the elimination of any moisture that may have been induced into the system in the making of the joints between the component parts.

Low temperature freezing cabinets, due to their bulk, cannot be given the final assembled baking process that is given household refrigerators. In this case the high side, consisting of the hermetic compressor and condenser, and the low side, consisting of the capillary tube, evaporator, accumulator, and suction line tube, are processed separately. When the final assembly is made the low side is flushed out with dehydrated air to pick up any moisture that may have been induced in the joining of the liquid and suc-

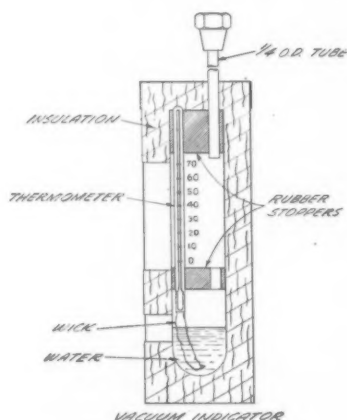


Fig. 2—This diagram illustrates a vacuum indicator which has been developed to show the boiling temperature of water in a refrigeration system.

tion lines. The high side, during this process, is isolated by valves in both the liquid and suction lines.

While these evacuation and dehydration techniques should theoretically remove all traces of moisture, freeze-ups are often encountered during the test period of the completed units.

All of the moisture present in the system is not liberated by these processes. Consequently it can be removed or cause trouble, as the case may be, for an indefinite period of time after installation. A chemical desiccant or dryer generally is in-

serted in the system to pick up the very minute particles of moisture which may have been partially trapped in the motor windings, joints, or pores of the metal, only to be liberated at a later time.

It has been previously stated in this article that for field installations only evacuation and chemical dehydration are practical.

Dehydration by Evacuation

Let us now consider the evacuation method for dehydration. The ordinary refrigerant compressor will not pull down to a low enough vacuum to evaporate the moisture that may be in the system. A good compressor may pull down to as low as 28 inches of mercury, which corresponds to a boiling temperature of water of 101.15° F. Portable vacuum pumps are now available that weigh approximately 35 pounds and will develop a vacuum of 1/10th of an inch of mercury, which is the absolute pressure for evacuating such systems.

Figure 2 illustrates a vacuum indicator which has been developed to indicate the boiling temperature of the water in the system. This indicator consists of an insulated test tube containing a wet bulb thermometer with its wick immersed in still water and having a connection to the vacuum suction lines. The thermometer will read the boiling temperature of the water in the system. If the room temperature is 70° F the reading of the wet bulb thermometer in the indicator will be practically 70° F also.

Vacuum Indicator Readings

Connect the suction line of the vacuum pump to the gage port connection on the compressor suction valve. The compressor suction valves should be in a neutral position, that is, half way between open and closed. Pull the system down as far as possible with the refrigerant compressor, and then start the vacuum pump. Figure 3 illustrates a vacuum indicator reading on a typical dehydration operation.

There will be no change in the indicator reading until the pressure reaches .739 inches absolute, which is the vapor pressure of water at 70° F. As the pressure is further reduced, the indicator reading will fall rapidly until the water in the system

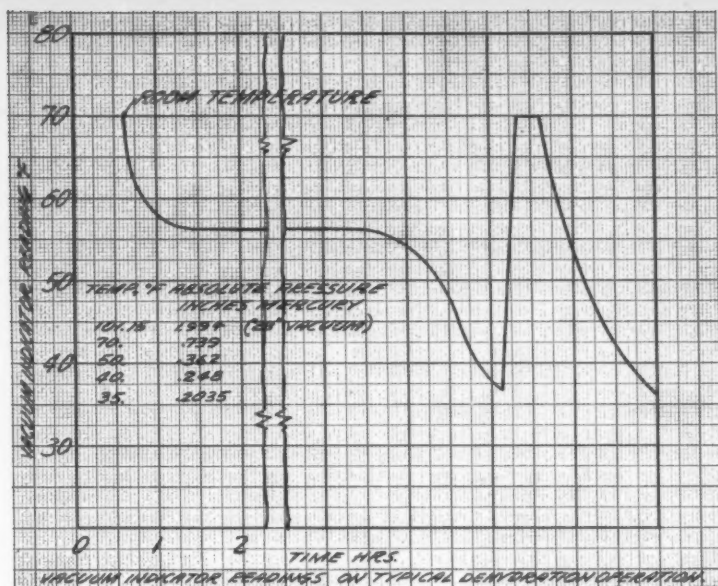


Fig. 3—This graph illustrates a vacuum indicator reading on a typical dehydration operation.

starts to boil. It will then drop more slowly, and will level out as the volume of vapor being formed prevents further drop.

The length of time involved in this part of the cycle depends on the amount of water present, as the cycle will continue until the water is practically all evaporated. The actual temperature reading for this part of the dehydrating period depends on many factors, such as moisture surface area, temperature, and pump displacement. After all moisture has evaporated and most of it has been pumped out of the system, the indicator will again fall rather rapidly as the pump removes the remaining air and water vapor.

It is customary to continue until the vacuum indicator shows that a temperature of 35° F is reached, corresponding to a pressure of .2035 inch absolute. At this point the system is still filled with a mixture of air and vapor at .2035 inch absolute pressure and it should be sweated out with a blast of, preferably, dry nitrogen or air. The dry nitrogen or air can be admitted to the system through the gage port connection of the compressor discharge valve. The vacuum indicator reading will now rise to room temperature, or 70° F as assumed for this explanation.

The compressor discharge valve is then closed, the compressor started, and the system evacuated with the

compressor discharging through the discharge valve gage port until it has evacuated the system as low as it can go. Then the vacuum pump is again started. The compressor discharge valve is then back-seated and the refrigerant compressor discharge valve is then back-seated and the refrigerant compressor can be shut down. The vacuum pump, however, remains running, and the vacuum indicator readings will again drop to the temperature corresponding to .2035 inch absolute, or 35° F. At this point the system will be as dry as it is possible to make any field installation.

Disregarding the moisture that may be trapped in joints, pores of the

metal, et cetera, it can be calculated that this method of evacuation will dry out the system to one part per million of moisture. However, as in the case of the household refrigerator or low temperature freezing cabinet, a dryer should be installed in the system to pick up any moisture particles that may be liberated at a later time.

Chemical Dehydration

The chemical dehydration method employs the use of a large master dryer or dehydrator. One method of installing this master dehydrator is to place it in a by-pass line around the dryer which will be permanently located in the liquid line.

Valves should be located in the liquid line so that the master dehydrator can be removed after approximately a week's service. When the plant is started initially, the compressor suction valve should be throttled off to maintain the evaporator temperature above freezing for at least several hours, so that the full charge of liquid will have passed through the master dehydrator a considerable number of times. The deeper the bed of gel in the dryer the more rapid the rate of moisture pickup.

Another method of installing the master service dehydrator is to locate it in the by-pass line between the liquid line and the suction line. An expansion valve should be placed in front of the dehydrator and the refrigerant actually expanded in the dehydrator, which should be insulated. Valves should also be provided

Continued on page 51

Fig. 4—This is a dryer which became plugged up in a system and was returned to the manufacturer as a faulty unit. Note the amount of sludge which the dryer had removed from the system. This dryer could have been reclaimed by the serviceman.



"We each have a job to do..."



George J. Roche

Refrigeration Equipment
Wholesalers Association

IT IS MY personal opinion that the right of the Refrigeration Equipment Wholesaler to continue lies in his ability to be of service to the manufacturers he represents and to the trade whom he serves. Any wholesaler loses his right of existence when he ceases to serve.

Our Association is composed of a large number, almost 300, of individuals who operate their own business, by their own conception of what they believe to be good business methods which they believe are sound and economic. It is impossible for us, as an association, to issue a statement of business policy which goes into minute details, since conditions vary in various sections of the country. There are, however, many broad points of business policy on which we can agree, and these you will find summed up in our Association statement of business policy.

It is true that this statement of policy may not satisfy, in its entirety, every member of all associations in

our industry throughout the country nor even, as a matter of fact, every member in our own Association. However, a summary of what is a representative policy, in a general sense, is the nearest we can come to perfection in this respect.

Our Association is a democratic organization, without any question. We cannot exert any definite control over our members. However, we have and will continue to exert whatever moral control over our members it is possible for an association to exert.

We Can Not Prosper Alone

It is a part of our associational thinking that we cannot prosper at the expense of our customers; but that we must continue to succeed and profit WITH them. This is also true of our relations with the manufacturer. Unless we, who represent the manufacturers, profit, then we cease to exist. We can carry this thought on to the Contractors group or any other trade factor which you may choose.

For several years now we have had a Manufacturers Relations Committee through which we deal, as an association, with the various products groups as set up by REMA.

Working Arrangement Wanted

It is our sincere desire that some such working arrangement, which we have attempted to set up through our Trade Relations Committee, can be worked out with the other factors in our industry; namely, the Refrigeration Service Engineers and the National Association of Refrigeration Contractors. We believe sincerely that through such committee activity any problems which present themselves to us on a national basis can be settled speedily and fairly.

We each have a job to do. Each of us is a specialist in his own field and we are dependent on each other. It is my sincere belief that there is no place in our business or in yours for dual operation which embodies the functions of the contractor and

LAYING their cards right out on the table, the Refrigeration Equipment Wholesalers Association and the National Association of Refrigeration Contractors took the opportunity provided by their respective meetings during the All-Industry Show to clear the air between these two important industry groups. The president of each association spoke before the other group, each outlining his organization's aims and airing its grievances. This mutual exchange of ideas indicated that the two groups are steadily growing closer together in their thinking and paved the way for closer cooperation in the future. Excerpts from these talks appear on this and the facing page.

the functions of the wholesaler. It is our sincere desire not to compete with our customers. That is one of the basic policies that has been in our organizational thinking since 1935.

Border Line Cases

However, there will be an occasional border line case which may be disputed. These are mostly individual cases and in many cases a matter of variance of personal opinion. These things we cannot help and as they come up they should be worked out in a smooth and efficient manner that will be equitable to all involved. The average Refrigeration Equipment Wholesaler does not have the organization or setup to handle consumer business. In my own business we definitely turn it away. We will accept it under no conditions. However, other wholesalers have a slightly different view point on this and there again the matter of personal opinion enters in. They are entitled to their thinking the same as I am entitled to mine. I cannot control them any more than they can dictate to me.

We will hear occasional rumors of
Continued on page 60

Contractors to Wholesalers:

"Our thinking is growing closer..."

IT SEEMS to me that one of the closest relationships in the refrigeration industry is that of the contractor and the wholesaler. Contractors all over this country are dependent on wholesalers' stocks to give them the flexibility they need to meet the variety of situations that arise in a contractor's business, and to meet them on time.

The contractor has organized himself, first, in self-defense; secondly, to improve present conditions; and third, to advance constructive planning for the future.

We believe that, if the refrigeration industry is to continue its present rate of growth, all segments of the industry must maintain the best of relations. Members of the Contractors Association recognize the Wholesaler's place in this industry and, unlike many contractors' organizations in other fields, have not organized themselves with any thought in mind of eliminating the Wholesaler. Our constitution and our objectives do not provide for co-operative buying or entering into the field of supply in any manner.

Three Types of Complaints

The Contractors Association membership numbers approximately 1,000 at the present time, and by this membership approximately 6,000 mechanics are employed. This is an unusual fact in that the average number of employees per contractor is six. This will indicate to you that most of our members come from among the group of larger contractors and distributors. This group have an annual purchasing power of \$160,000,000.

I am happy to report that our National Association has received comparatively few complaints against wholesalers' operations this past year. I think that the complaints received can be classified in three groups, as follows: First, objections to type of sales made by the wholesaler; second, equitable distribution of the wholesalers' materials between contractors

in an area; and, third, direct wholesaler competition.

The first of these complaints is rather an old one, and one that is disappearing quite rapidly; it is one which the contractor has not done his best to discourage, and that is the practice of selling direct to the consumer, at either wholesale or retail. Many wholesalers have overcome this objection by presenting a policy to their local contractors association which does not provide for this type of sale.

Distribution of Stocks

The second complaint, dealing with distribution of wholesalers' stocks on an equitable basis to contractors, is one which will eliminate itself when materials are readily available. Probably the foremost in this category in the past year has been the Freon situation, and when I think of a wholesaler's obligation to his customers of distributing his Freon, I am certainly glad that I am a contractor.

In many cases the contractor has complained that he is unable to get adequate Freon when the man across the street, who entered this business within the last few months, is getting Freon. He feels that his Freon is being divided among newcomers in the industry. It is not hard to justify this contractor's feelings, as most contractors in this country have had their gross sales curtailed and the efficiency of their departments affected through the Freon shortage.

Competition in Merchandising

Copper tubing, motors, and other short supply items have also been mentioned in these complaints. However, the manufacturers of most other short supply items were competitive to the point where some relief was forthcoming.

The third complaint, dealing with direct wholesaler competition, comes primarily from our distributor type of member, who feels that the wholesaler is his competition when he



Warren W. Farr

National Association of
Refrigeration Contractors

engages in the sale of completed fixtures, such as display cases, reach-in coolers, walk-in coolers, air conditioners, etc.; also the type of wholesaler who offers to all comers engineering service along with the purchase of this equipment.

Again, it is not hard to understand why a contractor in the distributing business might feel this way. As an association we are unable to do very much about this situation except pass it along to members of REWA as the thinking of a percentage of our membership. Again we point out that refrigeration items should be sold by a contractor with sufficient responsibility so the buying public will be assured of good engineering, sound installation, and a financially sound contractor who will fulfill the obligations due the customer.

Each year as we progress I believe that our thinking is closer together than it was the previous year. I be-

Continued on page 60

ABOUT *People*

Willis A. Siegfried has been elected president of Superior Valve & Fittings Co. to succeed the late John S. Forbes. Siegfried joined the company as assistant to the sales manager in July, 1944. In April, 1945, he was made sales manager and a year later he became vice president in charge of sales. He was named vice president and general manager in October, 1947.



Perfex Corp. has announced the appointment of **Allen A. Putt** as eastern sales representative for its controls division and **Alfred B. Meeg** as manager of its industrial controls division. For the last two years Putt had been manager of commercial sales for Friez Instrument Div., Bendix Aviation Corp. Meeg came to Perfex from his post as Milwaukee branch manager for Iron Fireman Mfg. Co.

E. B. Maire has been appointed sales manager of the following mid-western, southern, and eastern branch offices of General Controls Co.: Boston, Philadelphia, Pittsburgh, Birmingham, New York, Detroit, Cleveland, and Chicago. In this new capacity Maire will assist and coordinate the efforts of these branch offices in the contact with original equipment manufacturers, wholesalers, and utilities. Maire formerly served as regional sales manager for General Controls.



Fedders-Quigan Corp. has announced the appointment of **John W. Fenyvest** as export manager. Mr. Fenyvest was formerly vice president of Pioneer Metal Export Co. of New York City.

Sherer-Gillett has announced the appointment of **W. T. Shackelford** as southeastern sales manager, covering the states of Georgia, Florida, Alabama, and part of Tennessee. Shackelford's sales office and warehouse facilities for the territory will be maintained at 393 Peachtree St., N. E., Atlanta, Ga.



Charles W. Chidester has been named to represent Remco, Inc., in the states of California, Nevada, and Arizona. He will maintain temporary headquarters at 1251 West 41 Place, Los Angeles, until permanent space has been acquired. Prior to his association with Remco, Chidester had spent the past six years as manager of the refrigeration and air conditioning division of the Los Angeles office of Pacific Scientific Co.

In a series of personnel changes, Schnacke, Inc., has announced the appointment of **Basil Miller** as division manager of the north central territory, **William H. Hollingsworth** as division manager in the northeast territory, and **George G. Miller, Jr.** as sales engineer in the southwest territory. Basil Miller had been with Schnacke about six months; Hollingsworth formerly was a distributor for the company in Philadelphia; George Miller formerly operated his own refrigeration business in Kansas.

Edwin A. Hamala, prominent Cleveland advertising executive since 1933, has joined the staff of Jack & Heintz Precision Industries, Inc., as advertising and sales promotion manager. Prior to joining the Ohio organization, Hamala had directed all



advertising and sales promotion activities for General Electric Co.'s Premier Vacuum Cleaner Div. for the past nine years, with the exception of a 1942-1945 military leave of absence.

In a number of personnel shifts announced by Servel, Inc., **Harry F. Bell**, former eastern manager for the company's electric refrigeration division, becomes field sales manager, with headquarters at the Servel factory in Evansville, Ind. In this position he will supervise field sales personnel and cooperate with them in handling correspondence and contacts with customers in all sections of the country. **Curtis B. Allen** has been appointed southeastern district manager to replace W. J. McGuire, who died last October. **Don Rentschler**, a recent graduate of the United States Naval Academy, has joined the division's application engineering department.

Gordon W. Wheeler has been appointed field engineer in the Ohio territory for Henry Valve Co. With headquarters in Dayton, he will cover all of Ohio, Kentucky, West Virginia, western Pennsylvania, and eastern Michigan. Wheeler formerly was export manager for Henry, and long has been active in the general sales of Henry products.



General Electric has appointed **C. W. Leegard** to fill the newly created post of commercial engineer, re-

Continued on page 67



Just a few samples
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You're likely to save time, money and costly rejections by letting us do your tube forming. We have stock tools for many types of bending, flaring, expanding, swaging and beading—and many years experience in using them. We make a wide variety of precision tubes to specifications... in sizes from .015" to 1" O.D., with wall thickness down to .003"... round, square and irregularly shaped... in Copper, Brass, Bronze, Nickel Silver and other Copper Alloys and Aluminum. We'll welcome the opportunity to quote on your requirements.

Look for the tube with the Cup Seal End. It's exclusive with Anaconda Dehydrated Copper Refrigeration Tubes.

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Anaconda Refrigeration Tubes

COMMERCIAL *Refrigerator* SALES NEWS

While *The Refrigeration Industry* is not the official publication of the National Commercial Refrigerator Sales Assn., the Editors assign this space each month to the association. The information below is furnished, for the most part, by the offices of the association and its local affiliates.

Profit Reports of Owners Boost Self-Service Sales

"Who says self-service isn't profitable for small stores?"

That was the elated comment of Dave Budensick, owner of the Morningside Grocery in Minneapolis, Minn., when he found that his fresh fruit and vegetable sales had jumped 220% after installation of two self-service cases to handle this merchandise.

And for what better sales ammunition could a salesman of this type of refrigerated fixture ask?

Entire area of the Morningside store measures only 18 x 30 feet, but its experience with merchandising fresh fruits and vegetables goes a long way toward proving the profit possibilities of pre-packaging and

self-service refrigerated display for even this small an operation.

Prior to the installation of the pair of Weber "Serv-Master" cases back to back as an island display unit, fresh fruits and vegetables were sold from an ordinary dry rack display. The department was a minor one from a sales standpoint. Now the refrigerated fruits and vegetables are the store's leading profit items. A check on actual sales has shown that Morningside's shoppers are taking home 140% more fresh produce "on impulse" than they did when this merchandise was displayed on dry racks.

As sales have gone up, spoilage losses have come down, further increasing the profit of this department.



Installation of these two Weber self-service refrigerated produce cases boosted profits from this type of merchandise 220% for the Morningside Grocery, a small Minneapolis market. Pre-packaging of the produce proved even more effective. Result: both the owner and the customers are happy—to say nothing of the manufacturer.

Losses due to spoilage dropped from 12% on the dry rack to .58% in the refrigerated cases. This included mark-down losses, as well as losses from produce which actually had to be thrown away.

Profits of the Morningside market took another big jump when the store began to pre-package the fresh produce before displaying it in the refrigerated cases. It was found that pre-packaging permitted greater product utilization, and that less spoilage from exposure to air and handling resulted. Now the store requires more employees to handle the pre-packaging and restocking than it did when the produce was sold in the ordinary across-the counter manner.

THREE eight-foot self-service meat cases do their own job and also act as a service counter at the Zipper Market, Peoria, Ill., reports George Farrar, one of the owners.

In the ordinary store, there are usually self-service cases in one spot and a service case nearby. But the Zipper Market makes the self-service cases serve both purposes.

The advantages include less space, less help, increased sales. The reduction in labor costs alone is impressive, the grocer says. Only one butcher and a wrapper are needed behind the counter. These workers attend to customers who wish service. In their spare time, they prepackage meat for the self-service cases.

Customers have two choices—service or self-service. But Mr. Farrar reports that about 90% of his customers prefer self-service; only about 10% ask for service. Without self-service, Mr. Farrar estimates he'd need three times the help and space he now has.

WESTINGHOUSE PLANS MILK COOLER PROMOTION

Details of a fall promotion campaign on Westinghouse milk coolers, keyed to a series of advertisements in 14 farm magazines, have been announced by H. R. Cummins, advertising manager of the Westinghouse refrigeration specialties department at E. Springfield, Mass.

The campaign will promote the advantages of electric milk coolers for keeping milk at uniform temperatures all-year round, for preventing bacteria growth, and for stopping the

Continued on page 69

When it comes to credits and collections...

ARE YOU OUT ON A LIMB?

Many otherwise shrewd businessmen pay too little attention to this one important aspect of their bookkeeping procedure. Here is a simple, two-form, record system designed to keep you constantly informed as to who owes you what and for how long

By Fred Merish

THESE easy-money days will not last forever—and when money tightens, many businessmen in the refrigeration industry who have liberalized their credit and collection methods will “pay the piper”.

Before the war many of these businessmen had no systematic formula for handling these phases of their operations, and during the war, because money and jobs were plentiful, they relaxed more than ever in their efforts to minimize bad debts and delinquency.

Now is the time to appraise your credit and collection methods and install an efficient system. The collec-

tion system that will get maximum results with economical outlay has three essentials:

Collection Recording Equipment

This equipment, which may be purchased for as little as \$5 in any stationery store, comprises:

- (a) Ledger sheets, preferably with lines for "terms", "rating", and "credit limit".
- (b) Filing tray, preferably 5 by 8 inches, for active past due cards (life file), at front end and for inactive past due cards (dead file) at rear end.
- (c) Past due cards.
- (d) Numerical index tabs from 1 to 31, representing a tab for each

day of the month to operate a "tickler system" in the live file.

- (e) Alphabetical tabs for alphabetical filing in the dead file.
- (f) Folder for credit reports and financial statements.
- (g) Binder for collection analysis chart.
- (h) Folder for collection forms or master make-up of collection letters individually typed.

Collection Routine

Go through accounts receivable daily. Prepare past due cards (Fig. 1) for delinquent accounts. Make notation on ledger sheets to show that card has been made out, eliminating duplicates and permitting use of the

<u>PAST DUE CARD</u>					
CUSTOMER'S NAME _____			PHONE _____		
ADDRESS _____			TERMS _____		
Date of Sale	Amount	Follow-up	Date of next follow-up	Payment	Date

Write collection letters to accounts on cards. Signify with form number or symbol the kind of letter written, and mark on card the date it is to come up again for follow-up. That date is at the refrigeration merchant's discretion. In general, a 10-day spacing is effective. If a letter is specially

dead file. If unpaid, send another follow-up letter and mark the card accordingly, then file ahead to the day you want it to come up for follow-up again. If part payment has been made, or other changes in the delinquency have been made, note this information on the card.

Each transfer from the ledger page to the past due card is initialed on ledger page for reference. Being a transcript of the ledger page, the past

preventing another follow-up. Dunning a customer who has already paid all or part of a bill creates unpleasantness and it sometimes happens when inefficient collection systems are used. Once a card goes to the dead file it remains there until a customer becomes delinquent again on subsequent business.

The refrigeration merchant cannot get a good perspective of his collection efficiency unless he compiles a

[illegible]

written, not a form, clip the carbon to card or file in folder. Mark the word "Special" in the "Follow-up" column on the past due card. Forms or individually typed letters belonging to a series may be numbered, this number being placed on the past due card for quick reference. A form folder should hold all current forms, with their reference numbers, to avoid confusion.

Check the past due cards in the active file daily against the ledger. These cards are behind the tab card for the day. If an account or installment has been paid since the last collection letter, mark the card accordingly and file it alphabetically in the

due card should agree with its figures. On installment accounts, only the past due installments are placed on cards. Note the difference between installment and open account with a symbol.

The tickler system operated in the live file provides means to assure prompt follow-up. The merchant dates the card ahead to the date he intends writing again, then places the card behind the numerical tab for the day. If he writes a letter on May 10 and intends following it up on May 20, he places the card behind the tab 20 in the tickler file.

If the customer pays meanwhile, the card is "killed" in the daily check-up, and is filed in the dead file, thus

monthly analysis chart (Fig. 2) showing past due accounts according to age, bad debts written off, etc. This gives a bird's-eye view of collection progress and total past due outstandings.

Many businessmen lose money, even though they write collection letters promptly, because they do not have an over-all picture of past due accounts every month or so. Assets are inflated because many listings under accounts receivable are really bad debts and should be written off.

Monthly scrutiny, by means of a collection analysis chart, provides opportunity for a quick visualization of

Continued on page 56

CONTRACTORS

News • Activities • Plans

While *The Refrigeration Industry* is not the official publication of the National Association of Refrigeration Contractors, the Editors assign this space each month to the association. The information below is furnished, for the most part, by the offices of the association and its local affiliates.

RAY WINTER HEADS N. CALIFORNIA GROUP

Ray Winther has been named president of the Refrigeration Contractors Association of Northern California for the coming year. L. E. Kreps was elected vice president; Nat Silverstone, treasurer; and R. A. Pitcher, recording secretary.

Directors, besides the officers, are Ralph Wetzel, J. H. Shively, Bob Mowat, and Bruce Sholes. Z. E. Jones is secretary-manager.

Committee chairmen for the year are: labor relations, Ralph Wetzel and L. E. Kreps, co-chairmen; fair trade, Bob Mowat and Bob Pitcher, co-chairmen; wholesaler relations, Nat Silverstone; codes and ordinances, J. A. Scatena; meetings and programs, Everett Stahl; membership, Nat Silverstone and Bob Pitcher, co-chairmen; and telephone directory advertising, L. E. Kreps.

A special committee will be appointed to meet with representatives of the Frozen Food Distributors Association of Northern California to work out a trade relations program of mutual benefit to members of both organizations.

'48 LOCKER SHOW SLATED FOR CHICAGO IN OCTOBER

Ninth annual convention of the National Frozen Food Locker Association will be held at the Sherman hotel in Chicago sometime during the week of October 24, 1948, according to plans just completed.

According to the arrangements which have been made the Sherman will have ample exhibit space available, and the hotel has promised 900 rooms to the locker group for its members. Additional rooms will be obtained in nearby hotels.

The Frozen Food Locker Institute will cooperate with NFFLA in sponsoring the show, just as it did with the 1947 event in Kansas City.

WHEELER HEADS CHICAGO CONTRACTOR ASSOCIATION

H. E. Wheeler, president of Air Comfort Corp., has been elected president of the Refrigeration Contractors Association of Chicago for the coming year.

Other officers and directors who will serve with him include: vice president, Walter McCarty, McCarty Brothers Equipment Co., River Forest; secretary-treasurer, George T. Howe, Accurate Electric Refrigeration Service, Chicago.

Directors are Harvey O. Miller, Murphy & Miller, Inc.; Albert G. Weil, Refrigeration Maintenance Corp.; Lawrence Sundberg, C. E. Sundberg Co.; Alphonse Gerat, A. G. Refrigeration Sales & Service; T.

J. Reedy, North Town Refrigeration Corp.; and Theo. C. Johnsen, Johnsen Refrigeration Co.

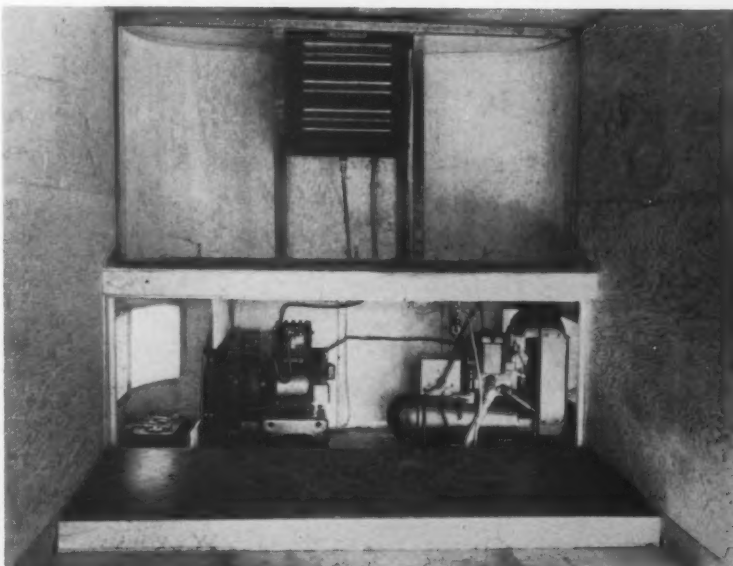
WORK PROGRESSES ON CONDENSING UNIT CODE

The first of a series of recommended standards for the commercial refrigeration industry—this one dealing with open-type condensing units—was brought near completion at a third industry-wide meeting held recently.

At the same session it was reported that "considerable progress was made toward the formation of a recommended industry standard for hermetic-type refrigeration condensing units."

Those attending the meeting were members of the Joint Engineering Committee of the Small Condensing Unit Industry, representing both ACRMA and REMA. Present were: A. B. Newton, Airtemp; A. D. Sullivan, Brunner Mfg. Co.; Lars Hanson and Mark E. Mooney, acting chairman, Carrier Corp.; J. L. Gibson and T. Benson, Frigidaire; C. H.

Continued on page 74



This compact, self-contained refrigerating system for trucks, which is claimed to increase cargo payloads, reduce maintenance, and afford constant cooling on the road plus a "plug-in" standby service during stop-overs, was developed by K. E. May, Frigidaire commercial refrigeration dealer in Moberly, Mo. The Frigidaire condensing unit at the left is operated by the 115-volt ac generator at the right, which in turn is powered by a small gasoline engine. Refrigerant is pumped through the cooling coil above. An ingenious arrangement permits water accumulated by defrosting to drain into the radiator of the gasoline engine. The entire system can be started or stopped by a push-button control in the driver's cab. When in operation, the insulated door (front foreground) swings up and fastens at top.

For the modern bakery plant

BETTER COOLING MEANS BETT

Before

Reach-in type dough retarders like this one were used by the Rosen bakery before it decided to completely revamp and modernize its refrigeration facilities.



After

This new walk-in dough retarder room eases the bakery's production problems by making it possible to prepare pastries in larger quantities, thus minimizing the frequency of bake-off periods. High humidity and engineered air distribution keep the dough in perfect condition.

HOW adequate and up-to-date refrigeration equipment can simplify the production processes (and up the profits!) of the modern bakery plant is well illustrated by the installation made in the plant of Rosen Bakery, Inc., one of Cleveland, Ohio's largest and most progressive baking establishments, by Bell Refrigeration Corp., also of Cleveland.

The equipment supplied by the Bell organization provided for cooling all the way along the line, from the making of the cream which is used as an ingredient in many of the items in the bakery's line to the holding of the finished product in Rosen's many retail stores.

This installation also points up the moral that if you do a good job for a customer on the first piece of busi-

By using modern cooling methods all along the line ingredients to the retail sale of the end product, this its production costs and has eliminated the seasonal

ness you get from him you will automatically set up a chain reaction which will result in your getting further business from this customer when the occasion arises.

The Bell organization, a refrigeration contracting firm headed by Ernest W. and Arthur H. Farr, made its first contact with the Rosen firm when its bid was accepted for refrigerating two large walk-in coolers for the bakery.

This job was awarded to Bell on the basis of the humidity and air motion conditions which this firm guaranteed to maintain in these coolers, and the work proved so satisfactory that when the bakery decided to install low-temperature sales cases in its retail stores this business was given to the Bell firm without any hesitation. In like manner, Rosen came to Bell for its other refrigeration requirements, such as the cream cooling system, another but smaller dough retarder, and a modification of existing equipment in its ingredient holding room.

In each case the Bell firm cooperated admirably in designing and installing equipment to conform to the exacting specifications laid down by Lou Rosen, young executive vice president of the baking firm. A serious student of bakery technology and production methods, Rosen outlined exactly what he wanted to accomplish, and then left it up to the Bell organization to determine how these results could best be achieved.

An unusually large percentage of the Rosen company's total volume lies in various types of pastries involving the use of whipped cream. It was this factor, more than anything else, which made adequate cool-



R BUSINESS

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eland bakery has cut
p from its sales curve

ing equipment a "must" in the Rosen plant, for without such equipment the profits from these large-volume items would be lost to the bakery all during the months of late spring, summer, and early autumn, when outside temperatures normally run so high as to virtually prohibit the production and sale of any baked goods of this type.

It was in an effort to eliminate this seasonal drop in dollar volume that the Rosen management determined to install the necessary cooling equipment to make the production and sale of whipped cream pastries a year-around proposition.

Of the two walk-in coolers on

Continued on page 54

Heinz Kickbusch, production superintendent, checks the condition of some pastries stored in the smaller dough retarder room.

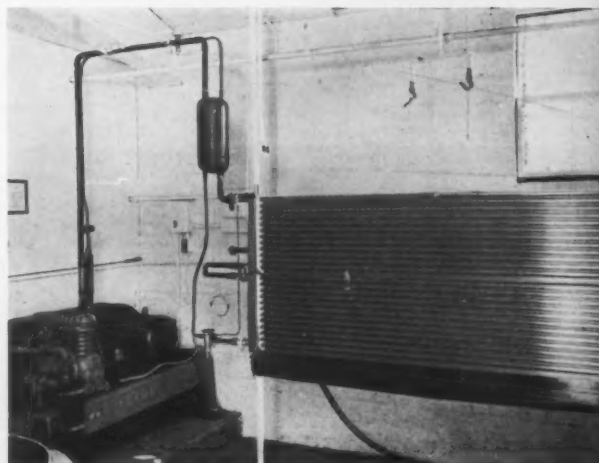
A whole week's production of white cakes and other items of baked goods can be stored in this freezer room, thus eliminating the need for daily bake-offs. Installation of two separate but identical cooling systems makes the room usable for both freezing and storage.



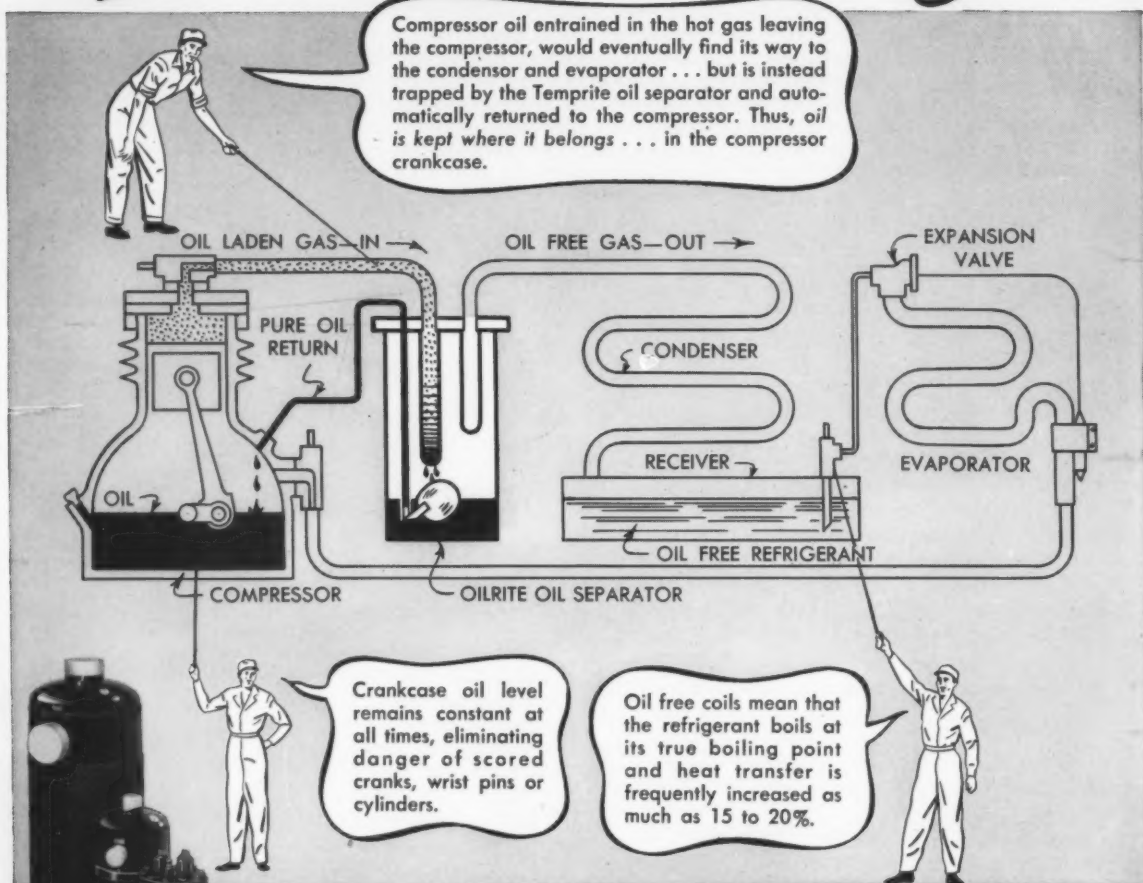
Weber "Roll-A-Door" frozen food cases like this one make possible the year-around sale of cream filled pastries, an important part of Rosen's production, in most of the bakery's retail sales outlets. Daily deliveries are made from the plant's bulk freezer storage room.



Raw material for the cream filled bakery goods is prepared with the aid of this efficient cooling set-up. The mix is cooled from 160 F to 40 F by passing it over these stainless steel milk plates. Cream for a whole week's production is made at one time.



Keep oil where it belongs...



...with a **TEMPRITE** oil separator

Oil congeals quickly in low temperature coils, cutting down heat transfer and boosting operating time. Because of this common difficulty it is frequently impossible to reach desired temperatures. A Temprite Oil Separator overcomes

this problem and permits the refrigerant to boil at its true boiling point. Temperatures from 4 to 7 degrees lower are easily reached at no increase in operating time.

Write now for full particulars.

TEMPRITE PRODUCTS CORP.

ESTABLISHED 1929



Originators of Instantaneous



Liquid Cooling Devices

41 PIQUETTE AVENUE

DETROIT 2, MICHIGAN

REFRIGERATION INDUSTRY

News

MILK COOLER GROUP FORMED BY REMA

A Milk Cooler Product Section of the Refrigeration Equipment Manufacturers Association was formed recently at a special meeting in Pittsburgh, Pa.

This special product section was organized because of the need in the industry for concerted action in establishing practical rating standards for mechanically refrigerated milk coolers, and because it was felt that many benefits would result in constructive trade association activity.

J. Kingsley Noel, Jr. of Victor Products Corp. was elected chairman, and J. E. Wilson Jr. of Wilson Cabinet Co. was elected secretary of the group.

A statistical committee composed of Wilson, J. B. Baughman of Westinghouse Electric & Mfg. Co., and E. G. South of Frigidaire Div., was appointed to make a study of sales within the industry and to develop methods and forms for a monthly report to all members of the section.

Jack Smith of Frigidaire was appointed temporary chairman of a special ratings committee to compile available rating data from all members for discussion at the next meeting.

Membership in the Milk Cooler Section of REMA will consist of representatives of manufacturers who produce mechanically refrigerated cabinet-type milk coolers for cooling and storage of milk or cream in standard 5, 8, and 10-gallon cans. The section is not intended to cover walk-in rooms and tubular or plate type coolers.

DISTRIBUTES FREEZERS

Orgill Bros. & Co. of Memphis, Tenn. and Little Rock, Ark. has been appointed distributor in Tennessee, Arkansas, and Mississippi for the Ben-Hur line of home and farm freezers.

MILLS HEADS REMA PUBLIC RELATIONS

The Refrigeration Equipment Manufacturers Association has announced the appointment of George E. Mills, of Cleveland, Ohio, as its director of public relations, and the establishment of REMA public relations



Mr. Mills

offices at 3751 Prospect Ave., Cleveland.

Mills, a native of Cleveland, is a veteran advertising, sales promotion and publicity man with a broad background. He will combine publicity and sales promotion activities for the refrigeration and air conditioning industry with a public relations program designed to result in a more closely knit relation of the industry's various segments.

OHIO RSES MEETS

Second annual convention of the Buckeye State Association of the Refrigerated Service Engineers Society is slated to be held April 3 and 4 at the Onesto hotel, Canton, Ohio.

Educational programs conducted by factory representatives of various refrigeration manufacturers are scheduled, and a tube bending contest will be staged, in addition to the group's regular business sessions.

HEART ATTACK FATAL TO JOHN H. GANZER, COOLERATOR CHIEF

John H. Ganzer, 54, president of Coolerator Co., manufacturer of electric refrigerators and freezers, died suddenly Saturday, February 28. Death came from a heart attack suffered while shoveling snow from the driveway of his home in Duluth, Minnesota.

Mr. Ganzer had been associated with Coolerator since 1921. He was vice president of the company from that time until February, 1947, when he was named president.

He is survived by his widow, Violet, and two sons, Jack D. and Robert H., all residing in Duluth.

FLORIDA FIRM MAKES 4½ CU. FT. UNIT

Manufacture of a 4½ cu. ft. electric refrigerator has been announced by Mays-Money Refrigerator Co., 1235 Central Ave., St. Petersburg, Fla. This apartment-size unit is made of aluminum.

W. L. Mays, who has been in the refrigeration business in St. Petersburg for the past 12 years, reports that he intends to continue manufacture of the product as long as there is a demand. He also states that his engineering service will take care of these machines in private homes. Otherwise, the service caters only to commercial houses.

Mays is president of the company, R. V. Money is vice president, and Frank Stoker is secretary-treasurer.

WILSON CABINET JOINS NEMA GROUP

Application of Wilson Cabinet Co., Inc., for membership in the home and farm freezer section of the National Electrical Manufacturers Association has been approved by NEMA's officers' committee.

GEMCO'S CREDITORS DROP COMMITTEE

Voluntary dissolution of the committee representing creditors of General Engineering & Mfg. Co., has been announced by William T. Sutter, Westinghouse Electric Co., chairman of the committee.

This action comes as a result of the rapid progress made in the company's financial and sales picture under the direction of Norman B. Schreiber, who was brought into the organization last August as board chairman and general manager.

Under the new regime, the manufactured inventory of Gemco air conditioners has been substantially reduced, the distributor organization has been tripled, and the financial status so improved that creditors and the St. Louis banks who have been working with Gemco officials agreed unanimously that committee services are no longer needed.

Schreiber will remain with the company as chairman and general manager, it is stated.

Production and distribution plans for Gemco's heat pump, called Miracula, have been stepped up.

"RECO" MOVES TO NEW HEADQUARTERS

Refrigeration Engineering Corp. has announced removal of General Offices of the Reco Products Div. and the Reco International Div. to their new factory building at 2020 Naudain St., Philadelphia.

The new facilities contain approximately 30,000 sq. ft. of floor area and approximately 6000 sq. ft. of open storage area. Although complete occupancy of the premises cannot be made at this time, approximately 18,000 sq. ft. of the area will be used to house the offices of the firm, central warehousing of smaller equipment, and fabrication of Reco systems.

WORLD'S BIGGEST REFRIGERATED WAREHOUSE TO REQUIRE 1,000 TONS OF COOLING



Some idea of the tremendous size of the new Alford Refrigerated Warehouse, scheduled to be completed this year at Dallas, Tex., is conveyed in this architect's drawing. Each of the two warehouse buildings will be 1700 feet long and 200 feet wide. Refrigeration for this huge project, described as the largest of its kind in the world, will be provided through "Recold" refrigeration coils supplied by Refrigeration Engineering, Inc., Los Angeles.

Largest refrigerated warehouse in the world, a gigantic building 1700 feet long and containing approximately 7,500,000 cu. ft. of storage space, now is under construction at Dallas, Tex. To be known as the Alford Refrigerated Warehouse, this unit is scheduled for completion late this fall.

A twin building, originally planned for dry storage only, will be revised to provide year-around guaranteed temperature for storage of semi-perishables, such as canned goods, over long periods of time. Under this revised plan, provisions have been made for air conditioning any part of the building down to 65 F.

Offices in the two-story administration building will be windowless and completely air conditioned.

A total of 1000 tons of refrigeration will be required for the entire job. The cold storage warehouse will be broken up into four separate sections. Typical individual cooler rooms will measure 200 x 55 feet, with 25-foot ceilings, and will be held at approximately 32 F. Typical freezers will be 200 x 110 feet. Temperatures in these freezers will be maintained at -5 to -10 F.

Ingersoll-Rand XVG angle-type gas engine driven compressors will provide the refrigeration for both high and low temperature storage areas. These units will be located in a separate machine room located approximately in the center of

the building. The low temperature refrigeration system will be full flooded ammonia, while the high temperature system will utilize circulating brine.

A total of 285 "Recold" ceiling type water defrost coils manufactured by Refrigeration Engineering, Inc., Los Angeles, will comprise the low side equipment for the entire warehouse. Model number of the coils to be used is AS-2707-LT. This equipment was sold by Lou Snell of Snell Refrigeration Supply Co., exclusive Recold distributor in Dallas.

This job is one of the first really large refrigerated warehouses to use ceiling type blower coils throughout, thus making every available square foot of floor space usable for storage. Previously, other large projects of this kind have used either pipe coils or large industrial type floor units.

No insulation will be used in the floor, but walls and ceiling will have 12 inches of redwood bark. More than 60 carloads of insulating material will be required for the job.

The entire project will cost \$5,250,000.

NEW G-E OUTLET

Jones Refrigeration, Inc., of New Orleans has been appointed sole distributor for General Electric commercial refrigeration and air conditioning equipment in Mississippi and southern Louisiana.

ENFORCED TEXTILE AIR CONDITIONING KILLED IN S. C.

A bill that would have required installation of air conditioning plants in all South Carolina textile mills has been rejected by a special investigating committee of the state's house of representatives after a 9-month survey of textile mill conditions.

Passage of the bill at this time was not "feasible," the investigators reported. The committee said that both labor and management spokesmen in the six textile centers visited agreed that some form of air treatment was advisable, but no one was certain that air conditioning was the answer. "There was no evidence of any real dissatisfaction among workers," the committee said.

Because of the delicate humidity and temperature regulations necessary in textile manufacture, the committee found that mechanical air conditioning would not be possible in some plants, and recommended that legislators await the pending report of the American Society of Heating & Ventilating Engineers, which is now studying the problem of proper working conditions in textile plants, before enacting any legislation.

STATE LOCKER GROUPS PLAN CONVENTIONS

Tentative plans already have been laid by frozen food locker associations in several states for statewide meetings or conventions to be held sometime during 1948. The National Frozen Food Locker Association is lending its encouragement and active assistance to all such gatherings of its state associations.

A listing of times and places set for these state association meetings follows: Alabama, August, at Birmingham; Arizona, February, at Phoenix; Georgia, May, at Atlanta (probable); Illinois, May 9-11, at Springfield; Kansas, April 15-16, at Manhattan (probable); Mississippi, August, undecided; Montana, May or June, at Miles City (probable); North Dakota, June, at Fargo (probable).

NEW OFFICERS NAMED BY REWA REGION 6

At its final meeting of 1947, the central regional group (Region 6) of the Refrigeration Equipment Wholesalers Association elected its new officers for the 1948 season as follows:

R. M. Potter, United States Electric Co., Inc., Springfield, Ill., chairman; P. Ravanasi, Service Parts Co., Melrose Park, Ill., vice chairman; G. A. Larson, Gustave A. Larson Co., Milwaukee, Wis., treasurer; V. J. Sweeney, Automatic Temperature Supplies, Inc., Madison, Wis., secretary.

\$50,000 IN ORDERS SNARED BY FISCHER DURING 3-DAY SHOW

More than \$50,000 worth of business was chalked up by J. Geo. Fischer & Sons, Inc., Saginaw, Mich., wholesaler of refrigeration equipment and supplies, household appliances, and electrical equipment, during its 1948 Open House and Michigan Refrigeration Show.

Orders totaling more than \$10,000 were written each day of the three-day show by the company's refrigeration division alone. Free premiums had been offered by this division as a special sales inducement.

More than 2000 people registered at the showing, and an estimated 500 more by-passed the registration desks because the combined effort of three typists was not enough to handle the crowd with sufficient rapidity. At least 50 manufacturers' representatives were in attendance.

Among the products displayed by the firm's refrigeration division were Revco home freezers, Puffer-Hubbard commercial refrigerators, Viking food market equipment, United beer and bottle coolers, Victor milk coolers and frozen food equipment, Stanley Knight soda fountains, Ebco water coolers, USAirCo air conditioners, Brunner condensing units, Bush unit coolers and coils, and a full line of parts, controls, and accessories.

A buffet supper and musical entertainment were provided daily. Daily door prizes also were awarded. Grand prize was won by the Milton Breakie Locker Plant of Port Huron, Mich.

TESTIMONIAL ADS USED BY SERVEL

Several newspaper test campaigns employing local testimonials will soon be under way in key southern and southwestern cities for the Servel "All-Year" gas air conditioner.

The newspaper advertisements will be run cooperatively with gas companies, which in most cities exclusively distribute and service the All-Year unit.

"The results from a few newspaper tests to date have been most encouraging," according to R. J. Canniff, advertising and sales promotion manager for Servel. "Newspaper advertising seems best suited for this type of campaign because copy can be localized. This enables prospects to check with users of our equipment."

Among the cities included in this test program are Dallas and Houston, Tex. Similar campaigns will also be released in southern California, Oklahoma, and Louisiana. This area is being used because of the greater sufficiency of gas and also because climatic conditions make it a logical test market.

Regional and local business papers and home magazines are also being used in some areas. The campaign in Dallas is on a year-round basis, with insertions about once every three weeks. A continuous trade paper advertising program is also being conducted in the building and architectural press.

GEMCO LINES UP AIR CONDITIONING SALES STAFF



General Engineering & Mfg. Co., St. Louis manufacturer of packed air conditioners and the "Miracula" heat pump, used the 8th International Heating & Ventilating Exposition in New York City as an opportunity to introduce its entire air conditioning sales staff to the trade. In the rear row are: J. Y. Hewitt, general sales manager; F. A. Deniston, special representative, heat pump division; F. H. Eldredge, sales promotion and advertising manager; Dan R. Hoffman, southwest regional manager; and Ralph M. Skinner, midwest regional manager. Standing in the front row are: James Lamb, service manager; R. D. Elgin, south central regional manager; Charles J. Davis, southeast regional manager; Norman B. Schreiber, board chairman and general manager; Harry B. Osmundsen, northeast regional manager; and B. T. Cline, north central regional manager.

SCHNACKE STAGES DEALER MEETINGS

A succession of sales and service meetings in conjunction with its distributor and dealer organization throughout the country is being established by Schnacke, Inc. For the benefit of distributors, dealers, contractors, engineers, and designers, these meetings will cover all of the phases of construction and application of Schnacke compressors and condensing units.

Incorporated in these

meetings is a series of slide photographs showing the entire story of the production and assembly of the units, together with complete advertising and sales promotion data.

Headed by T. G. Thomas, sales manager, and G. A. Lamb, chief service engineer, working in conjunction with Schnacke division managers, these meetings are being held in all parts of the United States, and at the present time are scheduled for St. Louis, Kansas City, Chicago, Fond du Lac, Wis., and New York City.

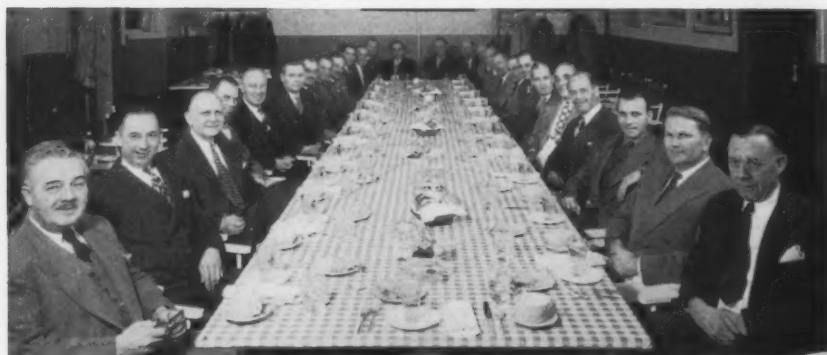
WESTINGHOUSE BUILDS NEW PLANT FOR MOTOR OUTPUT

The section of the small motor manufacturing operations of Westinghouse Electric Corp. temporarily located at Fairmont, W. Va., soon will be transferred to Bellefontaine, Ohio, to clear the way for expansion of fluorescent lamp manufacturing facilities in Fairmont. The new plant at Bellefontaine will be located approximately 35 miles from the small motor division headquarters plant which is at Lima, Ohio.

The new plant at Bellefontaine will be a concrete block structure of 64,000 square feet floor space and will be situated on a nine and one-half acre site on Third Street adjacent to the state highway garage. Construction is planned to start early in 1948 with completion scheduled for about six months thereafter. Small motor production at Fairmont will continue while the Bellefontaine plant is being built.

By the time full production is achieved at Bellefontaine, probably in the early part of 1949, the new plant will employ some 400 people of whom 40 per cent will be women.

SCHAEFER REPRESENTATIVES MEET AT FACTORY



These sales representatives from all over the United States gathered recently at the factory and general offices of Schaefer, Inc., Minneapolis manufacturer of commercial refrigeration cabinets and home freezers, for a three-day sales conference. During this meeting they viewed the results of the company's half million dollar plant improvement program and were introduced to the latest additions to the Schaefer line of products.

ROBERTS, KINGSTON HEAD FREEZER MAKERS

Howard R. Roberts of Whiting Corp. and George Kingston of Kelvinator Div. were unanimously elected chairman and secretary, respectively, of the Home and Farm Freezer section of the Refrigeration Equipment Manufacturers Association at the group's annual meeting in Pittsburgh, Pa.

A committee consisting of J. E. Wilson, Jr., Wilson Cabinet Co., Inc.; J. Kingsley Noel, Jr., Victor Products Corp.; and Edward South, Frigidaire Div., was appointed to draft a suggested form and make recommendations for a monthly report of sales statistics. Methods of market analysis as well as methods of distribution will be given an important place on the program.

Consideration is also being given to a system of standard application ratings.

A publicity committee composed of J. W. Krall, Tyler Fixture Corp., Roberts, and Noel, was appointed to work out a plan for bringing the many advantages of home and farm freezers to the attention of home owners, farmers, and women's groups through releases to newspapers, magazines, and other publications.

FRIGIDAIRE DEALER OPENS IN TAMPA

Oldt-Waring Co. has been opened in Tampa, Fla., to sell and service Frigidaire commercial refrigeration equipment, air conditioning, and major appliances.

W. C. Oldt is president of the new firm, W. L. Waring, Jr. is vice president, and B. W. Eddy is secretary-treasurer.

Oldt spent 12 years as a Frigidaire factory representative before joining Byars-Forgy Co., Inc., Frigidaire distributor in the Tampa area, some 10 years ago. Eddy, also a former employee of Byars-Forgy, previously had been connected with a Frigidaire distributor in Birmingham, Ala.

Oldt and Eddy each have 22 years of experience with Frigidaire products.

WHAT IS A 2-TON UNIT?



You probably have sold a lot of 2-ton cooling units in your life, but have you ever stopped to visualize just what this tonnage rating means? To dramatically demonstrate the amount of ice which would be needed every day to produce the same amount of cooling as its new 2-hp air conditioning compressor, Westinghouse Electric Corp. staged this graphic display. Pointing out the striking comparison to a group of distributors attending the company's first post-war air conditioning conference is (second from right) D. E. Hallock, supervisor of air conditioning order service at Westinghouse's Sturtevant plant. The interested distributors are (left to right): J. G. Stewart, Louisville, Ky.; E. C. Carlson, Youngstown, Ohio; and Bernard E. Tiltz, New York City.

G-E ACQUIRES NEW WATER COOLER PLANT IN KY.

General Electric Co. has purchased a plant in Bowling Green, Ky., to be devoted entirely to the production of water coolers. G. R. Prout, vice president and general manager of the G-E's air conditioning department, has announced.

Full-scale manufacturing operation, which will begin before the end of 1948, is expected to double the department's previous total annual production of water coolers.

Title to the one-story manufacturing plant, comprising 80,000 square feet of floor space and an 8½ acre site, has been accepted from the War Assets Administration by Company officials.

Manufacture of water coolers at the air conditioning plant in Ft. Wayne, Ind., where the product

line was formerly carried, will gradually be discontinued as the new plant facilities are readied. Department officials do not expect the move to reduce employment at Ft. Wayne in any way, since corresponding increase in production of compressors and condensing units there is planned.

COOLERATOR NAMES 3 NEW OUTLETS

Appointment of three new distributors of Coolerator electric refrigerators and home and farm freezers has been announced by Coolerator Co.'s district managers in the three respective territories.

These distributors and their territories are: Philadelphia Distributors, Philadelphia; Tracy & Co., Inc., Providence, R. I.; and Cloud Brothers, South Bend, Ind.

THREE STATES PLAN LOCKER MEETINGS

State-wide meetings of frozen food locker plant operators have been definitely scheduled in North Dakota, Michigan, and Kansas.

North Dakota's 4th annual state meeting will be held June 23 and 24 at Valley City. Michigan's annual meeting will be held September 26-28 at Hotel Olds, Lansing. Kansas State College at Manhattan will sponsor an intensive week-long frozen food locker conference June 7-15.

COMPANY RESUMES VENDER PRODUCTION

H & M Co., a California firm originally formed in 1932 to manufacture the "Frosti-Server" ice cream bar vender, was purchased by a new interest last August and now has resumed operations after having been shut down during the war years. New owners of the firm are: R. A. Kelsey, president; J. D. Carter, vice president and sales manager; and John C. Redell, secretary and treasurer.

A new model of the coin operated vending unit, with redesigned cabinet but unchanged mechanical operation, now is available. This new vender weighs approximately 400 pounds, stands 6 feet high, 30 inches wide and 36 inches deep. Two vertical racks contain 72 bars, and vend by gravity feed. The machine is dime operated and offers a choice of two flavors. Bars are vended manually, and can be had with or without sticks.

Insulation is solid cork-board 4 inches in thickness which completely surrounds the refrigerated portion of the machine. Interior temperature averages 10 F. Machines are built for H & M under contract by Western Flying Service, Lakeside, Calif., and currently 90-day delivery is being promised on orders.

All "Frosti-Servers" are being sold outright to operators through state distributors, which are now in the process of being established.

MOISTURE . . .

Continued from page 35

in these lines so that the master dehydrator can be later removed from the system.

The dryer which is to be permanently located in the liquid line will be more effective if space permits its being located in the refrigerated area, that is, inside the cooler or freezer, whichever the case may be. In all instances, the dryer should be placed so that the flow of refrigerant is down through the dryer. It has been determined that the cooler the dessicant the more effective is its adsorbent characteristic.

Installations have been made by service men and erectors where the completed assembly was evacuated by the refrigerant compressor only and the dryer that was placed in the liquid line was sized only for permanent installation and therefore was not large enough to dehydrate the system as much as required.

We know now that evacuating the system with the refrigerant compressor only does not remove any of the

moisture nor all of the air that was in the system. This moisture and air which has not been removed from the system will immediately start the formation of sludge in the crank case of the compressor.

This sludge will be deposited on the top of the piston in the form of carbon, where it will cause crystallization and eventual breakage of the valves. Also it will be deposited in the discharge tube and in the condenser tubes, causing a loss of efficiency in the condenser and higher than normal head pressures.

Sludge Plugs Dryer

Eventually this sludge will find its way into the liquid phase of the system, and the dessicant in the dryer will pick it up. The formation of sludge will continue as long as there is any free moisture in the system, and enough of it may be generated to cause plugging up of the dryer.

Figure 4 illustrates a dryer which plugged up in a system and was returned to the manufacturer as a faulty dryer. Upon sectioning at the inlet end of the dryer we found the condition shown in Figure 4. This dryer

had been called upon to perform a service it was never intended to perform, and it should not have been condemned because of plugging. It had removed from the system the sludge which, had it remained in the system, would have caused expensive breakdowns at a later date.

This particular dryer could have been reclaimed by the service man. Had he removed the filler plug he could have dumped out some of the gel and noted its condition. The remainder of the gel could have been dumped out of the dryer and the dryer immersed in carbon tetrachloride to remove any of the sludge remaining on the interior of the shell and to flush out any small particles of gel remaining on the interior.

After such treatment the dryer should be blown out from the outlet end with a blast of hot air. Then the dryer shell should again be rinsed out in clean carbon tetrachloride and placed in an oven to bake. The shell could then be recharged with dry silica gel and again be ready for service.

It is suggested that service men wishing to recharge dryers purchase

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TOP QUALITY... because your product is brought to correct core temperature quicker.

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For complete description, write for Bulletins 83-RI and 102-RI.

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the gel in small 1-pound sealed containers. The dryer should be filled as soon as the seal is broken on the container. Then the dryer should be sealed with metal plugs or seal caps to prevent the migration of moisture to the gel inside the dryer, if the dryer is not going to be used immediately.

Any gel remaining in the container should be discarded if it is not going to be used immediately. If this gel is used at a later date it will have picked up additional moisture in the interim.

In the case of other plugged dryers which have been returned to the manufacturer, it has been found upon investigation that the inlet screens were plugged with fine particles of felt, copper chips, and rust. It is possible for a dryer to be in a system for a considerable period of time and plug up due to an accumulation of rust on the screens of the dryers. This rust was in the system when it was originally installed but was not released immediately.

In concluding, there are some suggestions that can be made to the serv-

ice man to assist him in eliminating some of the sources of moisture in the system.

Do not remove the seals from any of the component parts of the installation until you are ready to make the connection at this point.

Do not remove the seals from copper tubing until it is ready for use, and then immediately seal the unused portion.

Do not use air for pressure testing the system after the installation is completed. Admit a charge of refrigerant gas to the system until the pressure gage reads approximately 30 pounds. Then remove the refrigerant charging tank, replace it with a carbon or nitrogen tank, and boost the pressures to approximately 150 pounds gage and test for leaks. Some codes require testing the high side at 250 pounds pressure. Valve off the high side and add carbon dioxide or nitrogen to increase the pressure to that required by the code.

Servicing Precautions

After the job has been in operation and it is opened for servicing, moisture can get in unless great care is taken. If, by mistake, the system is pumped down to a slight vacuum instead of a slight positive pressure, air will enter when the system is opened up and it will carry moisture with it.

If a part of the system is opened up while it is cold enough to be below the dew point of the air, moisture will condense and ordinary purging will not remove it.

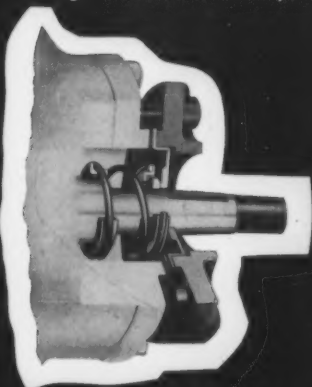
Pouring oil into a machine is a sure way of adding air and moisture, as the oil stream traps air and carries it along. This can be checked by observing that when oil is poured into a funnel or container it becomes filled with air bubbles. If the oil is allowed to flow into the machine, the air bubbles will go in with it. The best way to add oil is by suction through a tube which has first been purged with a refrigerant gas.

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Kemp Equipment Co., with headquarters in Rochester, N. Y., has opened a branch in Buffalo under the name of Kemp Distributors, Inc. Wholesale sales and display rooms are at 2387 Fillmore Ave., and Vincent A. Kenyon is manager.

NEW FROSTLINE GAUGES

WIN WARM WELCOME



Figure 1700-S



Figure 1705-S



Figure 1700-ST

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USG
UNITED STATES GAUGE

BETTER COOLING . . .

Continued from page 45

which the Bell firm made its original bid, one was a 20 x 30 x 9½-foot dough retarder which also doubles as a storage cooler for such items as bulk whipped cream, icings, and fruit fillings for pies, cakes, and other pastries. Design of this cooler is based on 4500 pounds of cakes and 10,000 pounds of pans and racks per day entering the cooler at 75 F.

This dough retarder is held at a

temperature of 32 to 35 F, with relative humidity of 87%. This excessively high humidity is necessary to keep the dough from drying out prior to baking. In addition to temperature and humidity, air distribution in this room also is extremely important. The distribution system is designed in much the same way as it would be for an air conditioning job, with air being delivered through ductwork from a Bush FL-24.6M floor mounted cold diffuser to six No. 25 Type AR Anemostats.

The ductwork is designed for static

regain, with varying duct size as required. The cold diffuser itself is powered by two Mills F-300-WS condensing units located in a separate machinery room.

The second 20 x 30 x 9½-foot walk-in is a freezer room held at -5 F. This room is designed to handle 4500 pounds of cakes and 10,000 pounds of pans and racks entering at 32 F. This room is used for the freezing and storage of frozen baked goods and whipped cream products, and Rosen has found that such products can be held for as long as two to three months with no deterioration or change in taste.

Freezer Flexibility

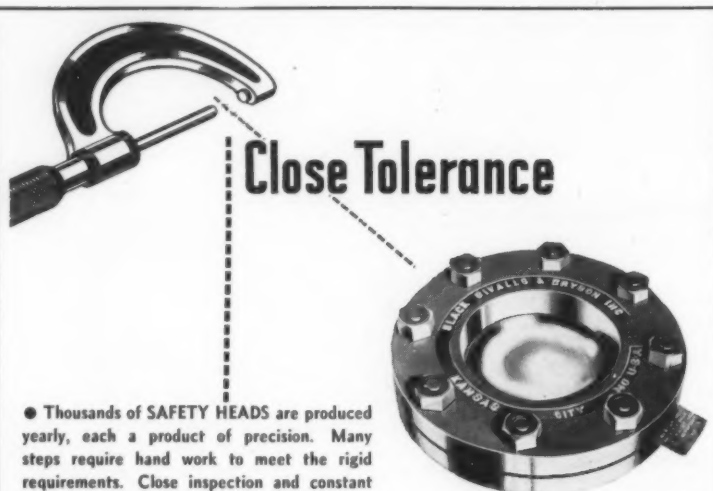
Refrigeration for this freezer room is provided by two Carrier 15M7 water defrost cold diffusers which are ceiling mounted. Each of these units is connected to its own Mills F-500-WL 5-hp condensing unit. These are two entirely separate systems, and are not interconnected in any way. This arrangement provides the necessary flexibility so that the room can be used for both freezing and storage. Both units operate when there is freezing to be done, but one machine cycles out when the room is being used for storage only.

This system is entirely automatic, except for defrosting. Manual operation of the water defrost system takes about 10 minutes every other day. Simply throwing a pair of toggle switches cuts off the solenoid valves and fans on the two Carrier blowers. Each valve and switch is neatly labeled on the control panels.

Retail Storage

To handle this frozen pastry and whipped cream goods in its retail stores, Rosen again turned to the Bell organization. The equipment supplied by Bell for this purpose consisted of Weber Roll-A-Door frozen food cases of 20 and 20-cu. ft. capacity, depending upon the space available in each store. These cases now are installed in 15 of Rosen's 18 retail outlets, and are serviced daily with a fresh stock of baked goods from the walk-in freezer in the bakery's main plant.

Preparation of the cream itself also presented a problem, and to bring this phase of its operations into line with the rest of its stepped-up production system Rosen called upon the



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Farr brothers to install a 5-hp Mills condensing unit connected to a set of full-flooded Cherry-Burrell milk plates.

To make the cream, milk powder, stabilizer, high butter fat cream, and butter are mixed in vats and then heated to 160 F for Pasteurization. The liquid thus formed is then run over the plates where it is quickly cooled from 160 F down to 40 F. From the plates it drains into 10-gallon cans and is then stored in one of the bakery's dough-retarding walk-in coolers. In this way the bakery can run an entire week's production of cream at one time, instead of having to resort to day-to-day production as was necessary when the cooling was done with ice.

More Space Needed

With its production thus stepped up, Rosen soon found that additional storage facilities were required. This time it was a conversion job which the Bell firm undertook, changing the coil and air distribution setup in an existing 13 x 29-foot dough retarder to achieve temperature, humidity, and air circulation conditions paralleling those in the larger dough retarder.

To accomplish this result, one Bush FR-40.6L floor mounted cold diffuser is connected by ductwork to two Type B Size 35 Anemostats. Both this cooler and its larger counterpart have actually been checked under all types of operating conditions and have been found to maintain relative humidity of 87 to 90%.

Proper balancing of each system through use of an Alco EPR-14 back pressure regulating valve in the suction line of each system has made possible the maintenance of these humidity conditions, according to Arthur Farr, chief engineer of the Bell organization. Without this provision, he points out, the decreased load on the coil during the winter months would tend to make the coil run colder, with a resultant drop in humidity.

In the separate machinery room where the condensing units for the two larger walk-ins are located, each system is equipped with its own separate control panel. Mounted on these panels and framed under glass for protection are such documents as operators' licenses, certificates of inspection and a Bell service reminder.

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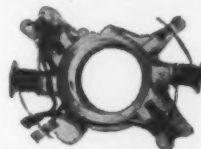
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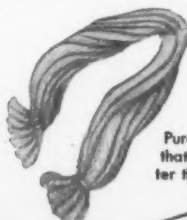
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ELECTRICAL AND AUTOMOTIVE PRODUCTS

ARE YOU OUT ON A LIMB? ... Continued from page 42

all past due accounts, thus preventing undue delay in taking action on delinquents and telling when to overhaul the credit policy and the methods used in granting credit, which sometimes grow lax.

The Collection Letter

The collection letter is a mighty important business tool. Poor collection letters can wreck a good collec-

tion system. The effective collection letter gets the money and keeps the customer. Here are eight rules for writing the collection letter right:

1—Brevity is important. The short letter suggests immediate action. The long letter implies delay. Except in unusual cases, keep the wording to 15 lines or less. Many collection letters say the same thing in a different way too often, unnecessarily increasing the length and weakening the appeal.

2—Courtesy is a "must". Pack no dynamite into wordage. Even when

you threaten to sue, say it with courtesy and dignity.

3—If a debtor cannot pay immediately, get definite understanding when he can pay. Research shows that in 80% of the cases when a debtor is given an opportunity to set his own date of payment, he pays promptly. When debtors make indefinite commitments, they pay in less than 30% of the cases.

4—Try to get the reason for non-payment. Next to collecting, the important thing is to know why you can't collect. This knowledge provides an opportunity for some arrangement toward eventual settlement. Induce the debtor to contact you even though you cannot collect right now.

5—Personalize your collection letters. In many cases, the creditor knows his customers well enough to write friendly letters that fit the case, instead of stilted forms filled with cold, business-like phraseology. Use more of the conversational style of address with customers you know. Inject cheerfulness, humor, news value, and timely interest, whenever in good taste.

6—Use the "you" appeal which is so effective in salesmanship. The desirability of a good credit standing in the community, the injury to personal pride, social standing and business reputation through credit delinquency, are some of the "you" appeals that speed up collections. Without threatening, get across to the debtor the idea that he, instead of you, benefits by paying.

7—Be sparing with trick wordage, or stunt letters. The trick letter may work out well with direct-mail, but it is usually a dud on collections. If used, it should be printed. Then the recipient feels that he is not being singled out as the only zany to be fooled by the verbal legerdemain.

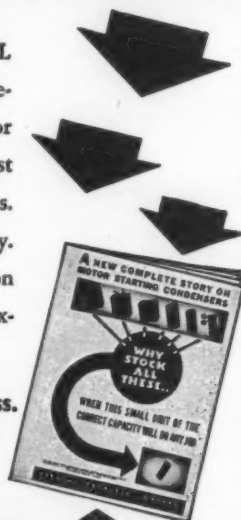
8—Use form letters with discrimination. Some businessmen buy stock form letters and use them on all cases. Such letters are not always flexible enough to fit every case. Analyze a delinquent account carefully, then write the letter that fits the case. Get away from multigraphed form letters as much as possible. Many businessmen, to save time, prepare a series of collection letters and have them specially typed to fit the case. Even this, however, is not a perfect solution, and in some instances special letters still must be written to get best results.

THE MOTOR-START CAPACITOR YOU NEED ... When you need it!

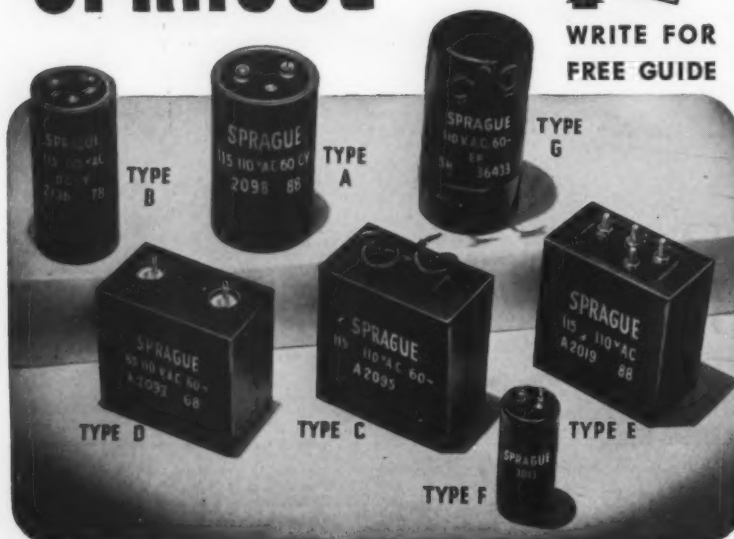
Keep a small supply of Sprague UNIVERSAL Motor-Start Capacitors always in stock. Be prepared for fast, accurate service on any refrigerator replacement. These sturdy little units are first choice of leading equipment manufacturers. They're smaller mechanically, better electrically. Only eight types equip you for quick service on almost *any* job. Our FREE GUIDE tells you exactly how to select the right one.

SPRAGUE PRODUCTS CO., North Adams, Mass.

SPRAGUE



WRITE FOR
FREE GUIDE



PROBLEMS INTO PROFITS...

Continued from page 30

mercial refrigeration installation up to and including the largest supermarket," he points out, "but the smaller store, with its equally complex refrigeration problems, is definitely our best market."

Thomas keeps one full-time salesman on the job, spending all his time investigating the applications of commercial refrigeration equipment in these smaller establishments, as well as in the establishments of the firm's larger customers. This salesman also follows up telephone calls which result from a large-space weekly newspaper ad and a telephone

REFRIGERATION problems in connection with cooling ice cream mix during the manufacturing process, and methods of freezing and hardening the finished ice cream, are authoritatively discussed in an application data section recently published by the American Society of Refrigerating Engineers. The seven page pamphlet was written by Chester J. Bell, manager of the Portland, Ore. branch of Creamery Package Mfg. Co.

Copies may be obtained from ASRE headquarters, 40 West 40th Street, New York 18, for 35¢ each.

directory ad which lists the many services which the company has to offer.

On the service side, the Thomas firm employs four full-time refrigeration mechanics, in addition to a crew of four servicemen.

The company's unusually large inventory of parts, built up partially through the "cannibalizing" of old equipment, enabled it to supply specialized refrigeration to fit nearly every customer's needs, even during the worst of the war years. The firm's shop mechanics cooperated with a crew of skilled carpenters to build whatever types of refrigeration equipment could not be supplied by the factories.

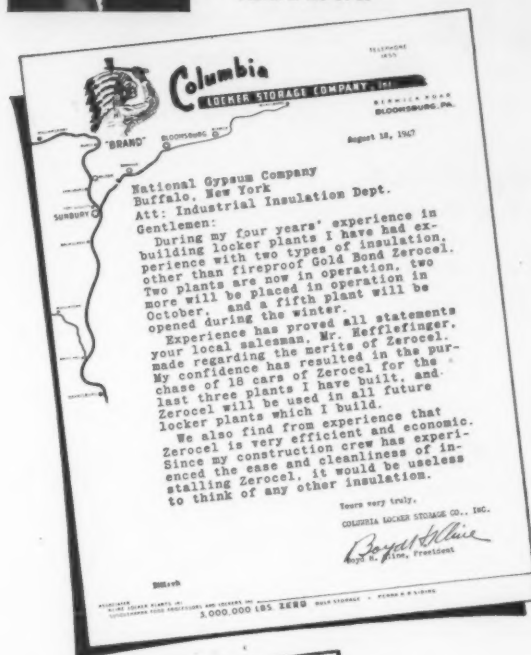
Many of these "temporary" wartime installations are still going strong. But when and if they do falter, you can bet your bottom dollar that Thomas will be Johnny-on-the-spot to replace them with either standard factory-built equipment or with more permanent custom-built installations.



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Useful LITERATURE

The publications listed below are available to readers without charge. Simply list on the postcard provided in this issue the numbers of the items you wish to receive, and send it to THE REFRIGERATION INDUSTRY, 1240 Ontario Street, Cleveland 13, Ohio. Your requests will then be forwarded directly to the companies concerned.

258—Impact Tool . . . A folder (Form 5030) describing and illustrating a new all-purpose electric tool, known as the 4U electric impact tool, designed to do everything from applying and removing nuts or screws to drilling brick and masonry. A complete variety of accessory equipment also is listed. Available from Ingersoll-Rand.

259—Hair Filter . . . A 4-page folder describing, illustrating, and listing specifications of a line of natural hair filters for all air cleansing applications. Charts are used to show air resistance, cleaning efficiency, and dust capacity of these filters. Available from Air Filter Div., Wilson & Co., Inc.

260—Ventilating Fans . . . Eight different types of attic ventilators, exhaust fans, inlet blowers, and similar ventilating equipment are described and illustrated in this 4-page folder. Capacities and dimensions of the various units are listed, and actual installations are pictured. Available from Schwitzer-Cummins Co., Ventilating Div.

261—Insulation . . . Detail drawings showing recommended application procedure feature this 28-page bulletin on mineral wool insulation for low temperature and cold storage application. Tables showing proper storage temperatures and humidity for various types of meats, fruits, and vegetables also are included. Available from Eagle-Picher Co.

262—Bottle Coolers . . . A specification sheet illustrating and describing a "duct controlled" stainless steel dry bottle cooler. Specifications for three models are listed. Available from Tyson Metal Products.

263—Locker Plant Layout . . . Complete layouts of a number of different types of frozen food locker plants, as well as structural details illustrating the application of Palco Wool insulation, are diagrammed in this 12-page bulletin (No. LCP-401). Available from Pacific Lumber Co.

264—Valves . . . A new 20-page condensed catalog describing, illustrating, and listing engineering specifications of the entire line of AP refrigeration valves. Thirty-five photos and drawings are included. Available from Automatic Products Co.

265—Evaporative Coolers . . . A pocket-size folder covering the "Sno-Breeze"

line of evaporative coolers. Installation suggestions for various fan-type and blower-type models are illustrated, and a map of the U. S. is marked to indicate the number of air changes per minute required in various sections of the country. Available from Palmer Mfg. Corp.

266—Freon Compressors . . . A 2-page illustrated bulletin (790-B) listing complete specifications of the "New Eclipse" line of compressors for Freon-12 service. Features of the various integral parts are fully described. Available from Frick Co.

267—Home Freezer . . . A chart of recommended varieties of and suggested processing procedures for various types of fruits and vegetables for home freezing is a feature of this 4-page bulletin on the "Revco Chill Chest". Available from Revco, Inc.

268—Air Nozzle . . . A new heavy-duty air nozzle with interchangeable noses for different types of work is described and illustrated in this 2-page catalog insert. Prices also are listed. Available from Imperial Brass Mfg. Co.

For Manufacturers Only

A comprehensive description of a complete line of electric hygrometer equipment suitable for the most exacting industrial and laboratory applications is contained in a new 28-page bulletin (No. 2164-236) published by American Instrument Co., Inc. Liberally illustrated, this bulletin includes helpful selection charts, diagrams, and calibration curves. One of the devices listed is a tiny sensing element which responds within a fraction of a second to increases or decreases of relative humidity as small as 0.1%.

269—Electronic Filter . . . A pocket-size brochure showing the construction and describing the operation of the "Trion" electric air filter for air conditioning and warm air heating applications. Available from Trion, Inc.

270—Capacity Control . . . An 8-page bulletin (Form 426) discussing the general problem of capacity control for refrigeration compressors and describing specifically how the Brunner suction valve unloader accomplishes this control. Available from Brunner Mfg. Co.

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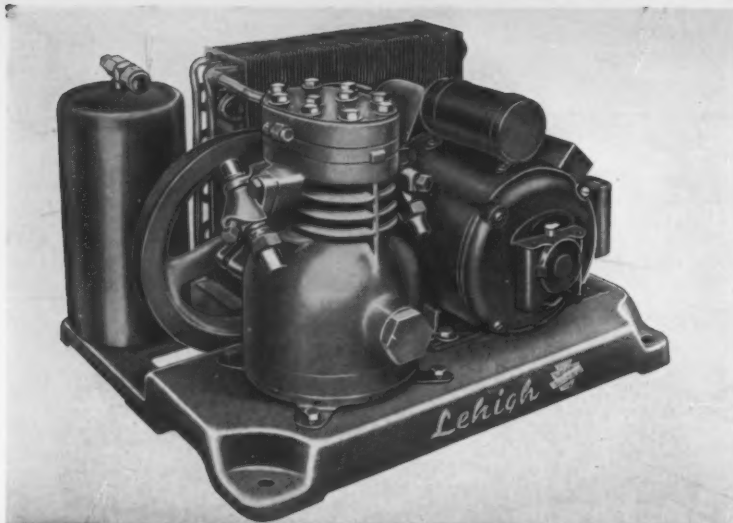
Precision-tested during production, Kelvinator condensing units come to you ready to perform dependably . . . under the toughest conditions. Their reputation for dependability is known wherever refrigeration is used—just as the name Kelvinator itself means the finest modern design, engineering, and quality manufacture. It's a name that always sells . . . always satisfies!

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3/4 H.P. 1 H.P. 1 1/2 H.P.
2 H.P. 3 H.P. 5 H.P.

For High, Medium, or Low
Temperature Freon or
Methyl Chloride

REWA TO NARC . . .

Continued from page 36

wholesalers who are doing contracting business. On the other hand we have rumors of contractors making an effort here and there to set up wholesaling activities while continuing as contractors so as to accrue a double profit. Neither of these activities is sound or economic.

We would like to see a program worked out with the National Association of Refrigeration Contractors, in which you would develop a Wholesalers Relations Committee with whom our Trade Relations Committee can work on matters that affect both of our memberships. We believe that such a program can be worked out to the advantage of all concerned. We have proven it with the manufacturers, and are anxious to prove it with you.

We do not wish to compete with you. We wish to help you. We will welcome information from you at any time which may help to eliminate activities among our membership that are not conducive to good business relations with our customers.

We hope that our relations with the Contractors Association will be as pleasant and as helpful to you and to us as our relations with the manufacturers, in similar activities, have been in the past.

NARC TO REWA . . .

Continued from page 37

lieve that these problems can be worked out. I believe that in the years to come there are many things that REWA and NARC might undertake as a joint enterprise.

One of these items would be industry statistics. The contractor is the last link in the chain of distribution. The wholesaler has a broad view of what volume is transacted by both the large and small contractor. Jointly, we might offer the refrigeration industry some very valuable statistics.

In the not too distant future we might consider some joint merchandising plans whereby we would present to the public good material and good workmanship. The pattern for such a merchandising program might be set by our National Associations.

New PRODUCTS

For further information on any of these products, simply list the key number at the head of each item on the special post card enclosed with this issue.

Apartment Refrigerator • P-190

Product: 3 1/2-cu. ft. domestic refrigerator (Model 350) especially designed for small apartments, trailers, doctors' offices, drug prescription departments, and other installations where space is at a premium.

Manufacturer: Jordon Refrigerator Co., Inc., Philadelphia.

Features: Table top height, with porcelain work top and interior. Ex-

terior of front and sides is white baked enamel. Cooled by 1/8-hp hermetically sealed condensing unit. This same cabinet will be made available in a low temperature model for frozen food storage and an ice cube maker model which will contain a total of 20 ice cube trays.



terior of front and sides is white baked enamel. Cooled by 1/8-hp hermetically sealed condensing unit. This same cabinet will be made available in a low temperature model for frozen food storage and an ice cube maker model which will contain a total of 20 ice cube trays.



and nut removal; drilling steel, masonry, and wood; reaming; applying and removing studs; tapping; driving and removing screws; extracting broken cap screws and studs; doing hole sawing and wire brush work. Tool weighs only 6 1/2 pounds. Plugs into any ac-dc electric socket and functions as any conventional electric tool until going gets tough. Then impact mechanism automatically functions and delivers 1900 rotary impacts per minute to job. No kick or twist transmitted to hand under any conditions, and motor continues to run even when spindle is stalled. Available with either 110 or 220-volt motor.



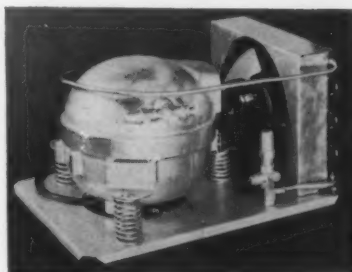
radiant heat it provides added insulation, thus lowering operating costs and minimizing temperature fluctuations. All models available with white delux exterior baked on the aluminum. Low temperature refrigerator equipped with secondary doors which restrict cold to food storage compartments.

Condensing Units • • • P-193

Product: A series of condensing units especially designed for use in refrigerators, freezers, beverage coolers, and water coolers.

Manufacturer: Airdraulics Engineering, Inc., New Canaan, Conn.

Features: Available in 1/8, 1/6, and 1/5-hp sizes, both gravity and fan cooled. Compact and light in



weight, yet with high capacity. The 1/8-hp unit measures only 16 inches long, 12 inches wide, and 8 3/4 inches high, and weighs only 33 pounds. All models have an all-aluminum housing.

Tail Gate Loader • • • P-194

Product: hydraulic tail gate loader for trucks.

Manufacturer: The Day Co.,

Tool Kit • • • • P-191

Product: All-purpose power tool kit.

Manufacturer: Ingersoll-Rand Co., New York City.

Features: Compact and portable power tool set which permits the service man to use the same tool for a number of jobs, simply by using the proper accessory. Accessories provide for the following jobs: nut running

Aluminum Freezer • • • P-192

Product: All welded aluminum low temperature refrigerators and commercial cabinets.

Manufacturer: Foster Refrigerator Corp., Hudson, N. Y.

Features: All models self contained. Aluminum construction provides insurance against rust, minimizes freight cost, facilitates installation, and increases mobility. As aluminum is highly reflective to

Chicago, Illinois.

Features: Designed to speed up loading, minimize breakage, and in some instances to eliminate a man from truck crew. Operates over full distance from ground to truck floor level, carrying loads up to 1200 lbs. Platform is level during travel arc, swings up to serve as tail gate when truck is on the road. Hydraulic pump is driven from truck's standard power take-off, and is controlled by lever. Unit fits most 1½ ton trucks. Power take-off models retail for \$435; hand operated models for \$325.

Humidity Indicator • • P-195

Product: quick-reading all-metal humidity indicator.

Manufacturer: Weston Electrical Instrument Corp., Newark, N. J.

Features: provides humidity readings accurate within 1° plus or minus for general conditions. Instrument is of wet and dry bulb type, has all-metal Weston thermometers, self-supporting wet-bulb wick covering thermal element, all-metal construction, and simplified slide rule calculator giving relative humidity

reading directly. Can be swung if desired to create air movement. Only maintenance necessary is to change wick occasionally and replenish water in reservoir. Slide rule calculator, located on face of instrument directly beneath dial-face thermometers, indicates relative humidity from 10 to 100 percent. With one movement of



slide the proper setting is made according to readings of two thermometers, and per cent humidity is shown immediately on upper scale. Instrument requires no calibration.

Household Refrigerator • P-196

Product: Model 61-S "Highboy" refrigerator designed for use in homes, apartments, trailers, hotels, or anywhere that floor space is at a premium.

Manufacturer: Ultra-Cold, Inc., Los Angeles.

Features: Measures 54 inches high but only 24 inches wide and 22 inches deep, so uses minimum amount of floor space. Coated inside and out with white baked enamel. Has stainless steel top, three shelves, three-tray ice maker, and storage capacity of 6 cu. ft.

Vibration Control Unit • P-197

Product: Type RS conical rubber-spring mounting vibration control unit.

Manufacturer: The Korfund Co., Long Island City, N. Y.

Features: Type RS has high load capacity, ranging from 25 to 125 lbs. per unit. Conical spring design provides greater horizontal stability than conventional all-rubber mountings, it is claimed, resulting in smoother



From the booming oil fields to the bustling industrial centers, Texas is a 'Superior' state. Manufacturers who are looking for countless advantages in copper tubing really go for 'Superior'.

Penn's finer tubing guarantees trouble-free installations for it has four outstanding features:

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ERIE, PENNSYLVANIA

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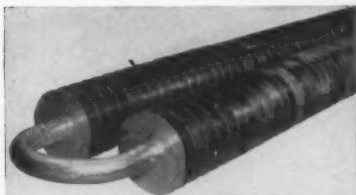
operation, particularly during starting. Combined use of rubber and steel springs is also said to give a wide frequency range for successful isolation, in addition to increasing load capacity. Unit is said to be equally effective on pumps operating at 1750 rpm as well as compressors running at 450 rpm. Designed for use on compressor units and other machinery requiring efficient vibration isolator.

Disc Fin Coil • • • • P-198

Product: "Polar Circle" refrigeration coil with disc fins, especially designed for heavy duty in commercial and industrial coolers and freezers.

Manufacturer: Howe Ice Machine Co., Chicago.

Features: Fins 7 inches in diameter and fabricated of 16-gauge steel are united at intervals of $1\frac{1}{2}$ inches with 14-gauge steel tubing having an overall diameter of 2 inches. Coils are fabricated on a special machine which expands tubing into the fins, assuring perfect



bond. Entire coil then is hot galvanized. Available in three standard lengths— $8\frac{1}{2}$, $10\frac{1}{2}$, and $12\frac{1}{2}$ feet.

Furnished with plain ends, welded "U" bends, with square or oval flanges, or couplings, welded to the tube. One lineal foot of this coil provides refrigerating surface equal to 11 feet of $1\frac{1}{4}$ -inch pipe and has only one-third the weight of prime pipe surface of equal capacity.

Humidifier Drawer • • • P-199

Product: "Magi-Tray" plastic vegetable crisper and leftover storage drawer for household refrigerators.

Manufacturer: Marvanity Co., Dallas, Tex.

Features: Hinged lid fits tightly and curved finger grips make it easy to slide in and out. Transparent material makes contents visible without removing tray from refrigerator.

Tray is durable and withstands both high and low temperatures. Cleans easily and will not absorb food stains. Measures $9\frac{7}{8}$ inches long, $5\frac{5}{8}$ inches wide, and $4\frac{7}{16}$ inches deep.

Window Cooler • • • P-200

Product: Model SRA-50 window-type room conditioner for home and office.

Manufacturer: Frigidaire Div., General Motors Corp., Dayton, Ohio.

Features: Designed for cooling rooms up to approximately 250 sq. ft. in area. Entirely self-contained and requires no building alteration for installation. Fits any double-hung window from 29 to 52 inches in width, and requires only a plug-in connection to operate. Powered by hermetically sealed and self-oiling "Meter Miser" units. Circulates cool, filtered air at the rate of 185 cfm. Angled grilles direct air upward to prevent direct drafts. Unit also can be used for ventilation only. A three-position switch affords room tem-

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Quality of materials and workmanship together with rigid inspection and testing combine to bring you high quality and satisfactory service. It costs less to use the best—ask your jobber for Electrimatic.

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LAST LONGER**

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perature control. Entire unit measures only 13 1/2 inches high, 26 inches wide, and 29 1/2 inches deep, and projects into room only 15 1/2 inches when installed.

Fish Display Case • • • P-201

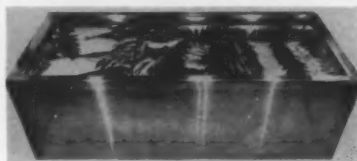
Product: Refrigerated cabinet for display and sale of fresh fish.

Manufacturer: National Production & Sales, Inc., Cleveland.

Features: A stainless steel cabinet which makes more than enough

ice to keep fish at best from 30 to 40 hours without touching them. Secret of case is humidification feature which provides for a thin layer of cracked ice on a slat rack at the bottom of the display section. This ice is slowly melted at a controlled 38-40 F temperature maintained by refrigeration coils placed behind a baffle at the back of this section. Cold air settling to the floor of the section slowly rises through the layer of cracked ice and produces the melting which provides the humidity. Available in 66 and 101-inch lengths, with front or

rear doors optional. Display section holds 500 pounds of fish. Storage section for 300 pounds of frozen and



200 pounds of fresh fish. Makes 240 pounds of ice per day in aluminum trays. Freon refrigerating unit, 1/3 to 1/2 hp. Removable plate glass sliding doors angled to display fish.

Double-Duty Case • • • P-202

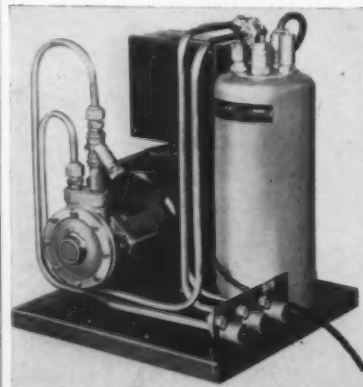
Product: Model 106 6-foot double-duty display case.

Manufacturer: Koch Refrigerators, North Kansas City, Mo.

Features: Fully porcelain clad, welded steel construction. 4 inches of insulation. Triple-glazed glass front. K-beam fluorescent lighting, patented "Miraflex" coils and baffles, stainless steel mezzanine shelf, and triple-glazed hard rubber doors. Short length and large expanse of display makes it ideal for installation in crowded quarters. Identical to and fits in line with the 10 and 12-foot models in the 100 Series.

Carbonator Assembly • • P-203

Product: Instantaneous carbonator mounted on a 12 1/2-inch-square metal base, complete with check

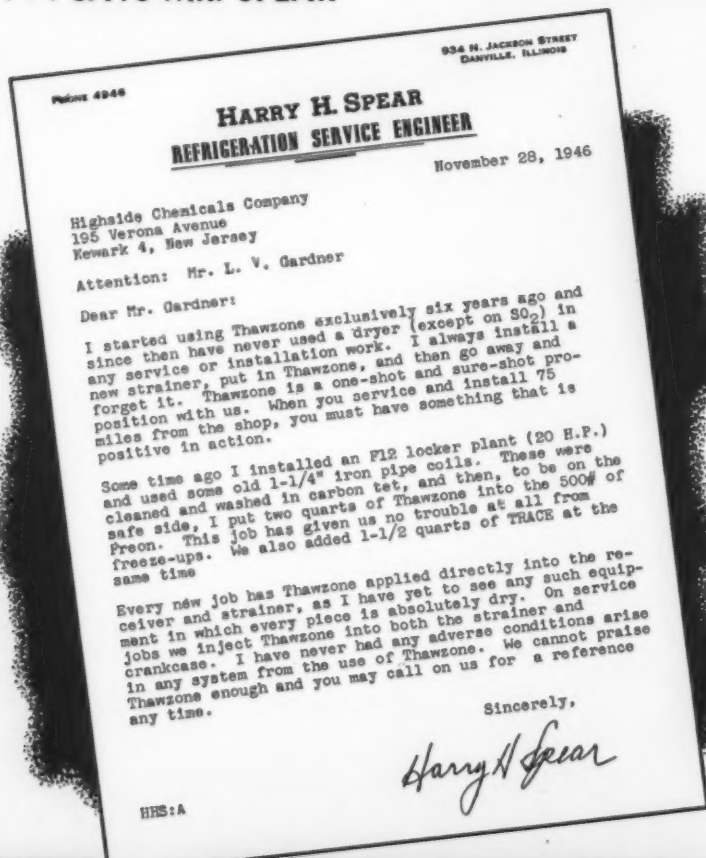


valves, pressure relief valve, pump, motor and relay assembly, and ready for immediate installation.

Manufacturer: Temprite Prod-

"One Shot and Sure Shot" ... SAYS MR. SPEAR

THAWZONE
PATENTED
The PIONEER FLUID DEHYDRANT



HIGHSIDE CHEMICALS CO.

195 VERONA AVE.

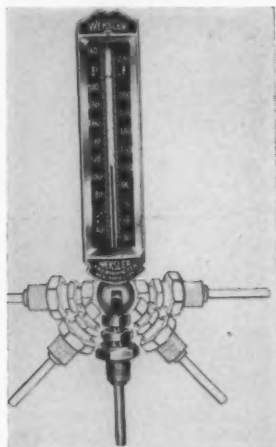
NEWARK 4, N. J.

ucts Corp., Detroit, Michigan.

Features: Designed for use in soda fountains, taverns, and beverage dispensing machines. City water and CO₂ gas are combined into highly carbonated water which can be cooled to desired temperature with existing mechanical soda coolers, cold water baths, or cracked ice cooling systems. Under normal operating conditions is capable of delivery up to 5620 glasses of carbonated water from a single tank of gas. Operates independently of city water pressure and without loss of gas through vents or purging devices.

Industrial Thermometer • P-204

Product: "Adjust-Angle" industrial thermometer.



Manufacturer: Weksler Thermometer Corp., New York City.

Features: Adjustable to any desired angle through a 180-degree arc to provide proper angle of vision. Adjustment can be made before, during, or after installation. Flexible metal capillary within specially designed ball connection, plus positive fusion of this capillary within specially designed ball connection, plus positive fusion of this capillary to glass members of the unit, makes possible adjustment of the stem or case to desired position.

Soda Fountains • • • P-205

Product: "Seco-Superex" soda fountain units.

Manufacturer: Seco Co., Inc., St. Louis, Mo.

Features: Originally designed for

Rexall Drug Co. for their exclusive use, these units now are available to the trade. All refrigeration compressors are self-contained in each unit. Dispensing equipment has large capacity, self-contained cooler-carbonator. Interchangeable units permit maximum flexibility in layout. Dry refrigeration system, no water bath. Fountain is several inches narrower, reducing reach and fatigue. Custom-built, heavy duty construction, with one-piece stainless steel tops. All syrup jars and insets for food units also of stainless steel.

Packaged Conditioner • P-206

Product: Newly designed packaged air conditioning unit that cools, dehumidifies, filters, circulates, and ventilates.

Manufacturer: United States Air Conditioning Corp., Minneapolis, Minn.

Features: Available in 3 and 5-ton capacities ready for quick installation. Needs little floor space. Remote installation may be made if desired, distributing air through a duct system. Only electrical, water,

NATIONAL Refrigerator Hardware

complete sets in matching designs

A wide range of hardware designs for use on Household and Commercial Refrigerators, Reach-in Cabinets, Display Cases, Back Bars, Florists Boxes, Bottled Beverage Coolers, Draft Beer Equipment, Coin Operated Refrigerated Dispensing Machines, Milk Coolers, Low Temperature, horizontal or vertical Cabinets, Stokers, etc.

Consult your jobber for complete information and prices.



NATIONAL
LOCK COMPANY
Refrigerator Hardware Division
ROCKFORD ILLINOIS

and drain connections required. Hermetically sealed compressor-motor unit. All-welded coils and refrigerant lines. Throw-away air filters used. Water saving condenser coil increases economy of operation. Heating coils may be added for winter operation. Fan may be operated alone for ventilation. Completely automatic operation. Cabinet exterior finished in neutral shade.

Combination Cooler • • P-207

Product: An electric water cooler which not only cools drinking water but also refrigerates a 2-cu. ft. food storage compartment and freezes three trays of ice cubes.

Manufacturer: Sunroc Refrigeration Co., Glen Riddle, Pa.

Features: Uses either pressure or bottled water. Employs a static condensor which eliminates the fan or water valve normally used. Moderately priced and available in a variety of colored exteriors at slight additional cost. Recommended for office use where it is desired to keep the thirst of 10 to 15 persons



quenched and also hold perishables for luncheons or snacks. Also suggested for use in homes at points where demand for storage capacity is limited, such as recreation rooms and dens.

NEW NOLAND BRANCH IN AUGUSTA, GA.

Noland Co., parts wholesaling firm, has announced the opening of a branch warehouse at 556 Reynolds St., Augusta, Ga.

TIME PROTECTED LINGLE

REFRIGERATION EQUIPMENT

Walk-In Refrigerators
Dry Beverage Coolers

Meat Display Cases
Cold Storage Doors

Sectional Reach-In Refrigerators
(Hard Rubber Sliding Doors)



See your wholesale jobber in your territory or write direct to the Kansas City Office for complete sales information.

Dry Beverage Cooler Specifications: 6', 8', and 10' size. 3" fibreglas insulation. Wood frame throughout for rugged construction. Stainless steel finger tip control doors, (disappearing type). Choice of blower or gravity coil. Removable top for ease of interchanging coils. Brown enamel finish.

LINGLE REFRIGERATOR COMPANY, INC.

95th & Troost, Box 7111 Country Club Station

Kansas City 2, Missouri

FLORIDA LOCKER GROUP REELECTS ALL OFFICERS

Earl E. Carver of Tampa has been reelected president of the Florida Frozen Food Locker Association. All other officers also were reelected, including Alex R. Johnson, Sanford, 1st vice president, and L. R. Holman, Orlando, 2nd vice president. Renamed to the board of directors were M. Hamilton, P. L. McMullen, L. V. McDougald, and John Law.

"BETTER water for better living," is the theme of "The Water Cooler Story," a brief but complete booklet being issued by members of the Drinking Water Cooler Manufacturers Association, a division of the REMA.

First part of this attractive 28-page brochure is devoted to a thorough discussion of the importance of drinking water to health, efficiency and morale.

The booklet includes complete descriptions and illustrations of the general types of coolers on the market today and also offers factual advice on choosing the right type and number of water coolers to meet the requirements of various plants, offices and other business establishments. Suggestions are given on proper locations for installations, and floor plans are included of typical installations in large and small manufacturing plants, department stores, office buildings, filling stations, hospitals and small retail stores.

Copies of the booklet will be distributed nationally by members of the Water Cooler Association. Single copies may be obtained by writing to R. Kennedy Hanson, Executive Secretary, Refrigeration Equipment Manufacturers Association, 1107 Clark Building, Pittsburgh 22, Pennsylvania.

DEEPFREEZE SWITCHES FIELD SERVICE MEN

Two Deepfreeze service department assignment changes have been announced by F. F. Duggan, general sales manager.

Loris M. Nelson, field service engineer, has been transferred to the North Chicago headquarters with responsibility for domestic service matters under the supervision of S. J. Seibert, product service manager.

Wm. S. Hall has been transferred from the southern region to the central region as product service engineer and will report to John Fellmann, central regional sales manager, Chicago.

ABOUT PEOPLE . . .

Continued from page 38

frigeration machine division. Leegard joined G-E in 1929 at Fort Wayne, Indiana, as a test engineer. He was transferred to the refrigeration division in 1933.

Howard C. Shilling has been appointed district manager of the Goshen, Ind., territory of Penn Electric Switch Co. Shilling, an experienced sales engineer in the application of automatic controls, joined the Penn organization approximately 7 years ago. He was manager of the company's Moline office until his recent appointment.



Martin Janasik has been appointed regional sales director for the central states area by Typhoon Air Conditioning Co., Inc., of Brooklyn, N. Y. Formerly with the Chrysler Airtemp organization, Janasik will make his headquarters in Detroit, from where he will supervise Typhoon representation in Michigan, Ohio, Indiana, Kentucky, and Western Pennsylvania.

William E. Ural has joined the engineering staff of Tenney Engineering, Inc. to coordinate engineering and field application. Formerly a design and application engineer with York Corp. for 10 years, Ural more recently was general manager of the refrigeration division of Electric Power Equipment Corp.

Continuing its expansion program, Refrigeration Engineering, Inc., Los Angeles, has announced the appointment of Albert Rebel as export manager. Rebel brings to the "Recold" organization a wide background in the commercial refrigeration industry. For the past 18 years, he has been

in full charge of the export division of Super-Cold Corp. There is hardly any country in the world where he has not established connections.

James J. Booth has been appointed manager of advertising and sales promotion of Cordley & Hayes, Inc. Previously, Booth was account executive with Ralph H. Jones Co., where he handled, among other accounts, that of the National Electrical Manufacturers Association.

Lee Stratton has been named merchandise director of the parts division (which includes refrigeration equipment) of Reynolds Metals Co. Stratton comes to Reynolds from Crosley Div., Avco Mfg. Co., where he had been serving as domestic sales manager.

William A. Givens has recently been appointed sales manager of Dri-Pipe Div., Mystik Adhesive Products. He was formerly director of sales of

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HIGH CAPACITY STRAINER AT VERY LOW COST!

Now you can protect ALL your
Expansion Valves, Solenoid
Valves, Two-temperature
Valves, Float Valves,
Pressure Regulator
Valves, Capillary
Tubes and other liq-
controls.

Screen of 100 mesh
Monel Metal re-
sistance welded.

One piece 1/2" O.D.
copper shell. Con-
nections for 1/4"
O.D. tubing.



3
SQUARE INCHES
FREE SCREEN AREA

- Safely installed on the line with brazing alloy or soft solder.
- Saves space; eliminates mounting straps; streamlines your installation.
- Provides efficient depth screening—free flow—no pressure drop.

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McINTIRE CONNECTOR CO.

257 Jefferson St.

Newark 5, N. J.

the Columbia Air-Conditioning Co., sales manager for the Complete Reading Co., and was previously associated with A. B. Dick as air conditioning engineer.

Kold-Hold Co. has named A. J. "Art" Nelson as manufacturer's



agent in the Rocky Mountain area. Mr. Nelson is thoroughly familiar with Rocky Mountain territory, having traveled extensively there for nine years prior to the war. A former

Army Air Forces captain, he was called to active duty in 1941, but has devoted his full time to his own business since his return to Army Reserve status in 1945.

Austin F. McCormack, of the New York office of Permutit Co., has been named sales engineer in charge

of the water conditioning firm's newly established Rochester office. The new Rochester office replaces the one formerly located in Syracuse and now closed. This branch was directed by F. D. West, who is retiring. Mr. McCormack's territory will include roughly that portion of New York state lying west of Utica.

Wade Atkinson has joined the public information department of Frigidaire Div., General Motors Corp., where he will work as special assistant to advertising manager F. H. Peters in the development and coordination of the company's publicity activities.

Three new regional managers have been named by the domestic appliance division of Pressed Steel Car Co., Inc. These men and their respective territories are: Thomas H. Ryan, west coast; B. H. "Buck" Melton, southeastern; Robert F. Mook, eastern.

Marlo Coil Co. has announced the appointment of H. V. Witherspoon



as their factory representative for the eastern half of Maryland, including Baltimore, and the entire state of Delaware. Mr. Witherspoon's entire engineering career has been

spent with Airtemp Div., Chrysler Corp., as an application engineer covering all phases of heating, cooling and commercial refrigeration. The new Marlo office is located in Room 501, O'Sullivan Bldg., Baltimore.

Harry L. Adams has been appointed vice president in charge of operations for Weatherhead Co. Adams joined Weatherhead in 1933 as an engineering specialist, and later became assistant to the president on manufacturing.

**BUY FROM YOUR
REFRIGERATION WHOLESALER**

NEW *Life-Time* DIAPHRAGM PACKLESS VALVES

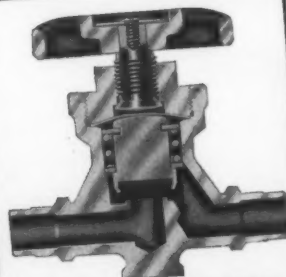


10 FEATURES OF SUPERIORITY—Check them!

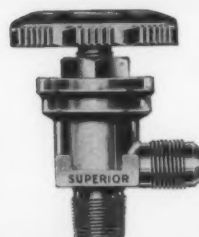
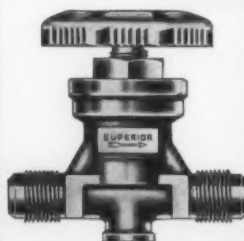
- 1—Rugged—pleasing appearance—symmetrical design.
- 2—Wrench pads for individually tightening flare connection.
- 3—Unique solder connections permit soft or silver soldering—without removing internal assembly.
- 4—One-piece, plated lower stem.
- 5—Controlled stem travel assures "Life-time" diaphragm performance.
- 6—Controlled seating results in "Life-time" operation.
- 7—Large bearing surfaces—polished stem heads, and scientific lubrication assure "Life-time" performance of upper stem and diaphragm.
- 8—Unrestricted flow—ease of operation.
- 9—Operates under normal pressure, with flow in opposite direction.
- 10—No special tools required for disassembly or reassembly.

Ask Your Jobber About "Life-time" Packless Valves
They're SUPERIOR!

141



Line, Branch and Angle Types



Superior

Valve and
Fittings Co.



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OFFICES IN PRINCIPAL CITIES STOCKS: CHICAGO (A) LOS ANGELES (S) JOBBERS EVERYWHERE

COMMERCIAL SALES . . .

Continued from page 40

dairy farmer's milk from being rejected.

Advertisements are being used in Hoard's Dairyman, Wallace's Farmer, Dairymen's League News, Western Dairy Journal, New England Homestead, American Agriculturalist, Rural New Yorker, Pennsylvania Farmer, Ohio Farmer, Michigan Farmer, Wisconsin Agriculturalist, The Farmer, Nebraska Farmer, and Prairie Farmer.

In addition, cooperative advertising by dealers, direct mail letters, promotion booklets and a sound slide film will be used.

15-FT. SALAD UNIT IN INTERNATIONAL HOUSE

An unusual 15-foot stainless steel salad counter has been installed in the busy kitchen of New Orleans' International House, an international business club which serves distinguished visitors from all over the world and specializes in the favorite dishes of foreign lands.

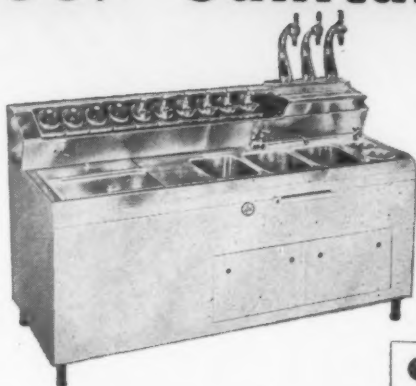
Designed by club and building manager Thomas Bradshaw and built by Albert Pick & Co., Chicago, the salad counter has 10 compartments for the storage of salads and desserts, a sink and table counter, and cold "bainmarie" refrigerated cold water bath. The counter enables the preparation of salads and desserts ahead of time, and their storage in prime condition until required.

Other refrigeration equipment used in the International House kitchen includes a 1600 cu. ft. walk-in cooler and two other refrigerators, a cook's cooler and a 22 x 16 pastry box.

NICKELL HEADS SALES FOR CROSLY DISTRIBUTOR

Carl K. Nickell has been appointed vice president in charge of sales for H. M. Tower Corp., Crosley distributor for Connecticut. For the past two years Nickell has been sales manager of J. N. Ceazan Co., Crosley distributor in San Diego, Calif. Previously he was vice president and general manager of Midland Co. of Indianapolis, Ind.

100% Sanitary

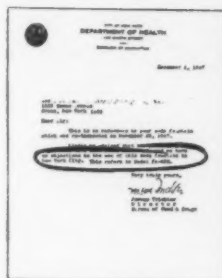


ACE takes pride in introducing the first completely sanitary fountain . . . passed by the New York City Department of Health.



ACE CABINET CORP.
NEW BEDFORD, MASS.

Manufacturers of: Ice Cream Dispensing Cabinets, Upright Ice Cream Storage Cabinets, Home and Farm Freezers, Frozen Food Display Cabinets, Creamer Soda Fountains, Bobbills and Sandwich Units.



The Premier

SELF ALIGNING VALVE GRINDING KIT

The **PREMIER KIT**
RECONDITIONS . . . Recessed or
Flush Valve Ports in MINUTES!

Now you can easily grind, finish and test recessed or flush valve seats (either piston or flapper jobs) . . . get 'em back into action *faster* . . . and make satisfied customers! No more tiresome hand-lapping.

IN USE BY

The Army and Navy!

Refrigeration Trade Schools, Public Schools and Service Organizations in United States, Canada, England, South Africa, Cuba, Hawaii and many other countries throughout the world.

ANOTHER PREMIER PRODUCT

The Premier Lapping Blocks. Two 6" Lapping blocks in hinged felt lined wood box for safe keeping.

A MUST FOR EVERY FIRST CLASS SHOP

THE PREMIER COMPANY

891 Park Avenue

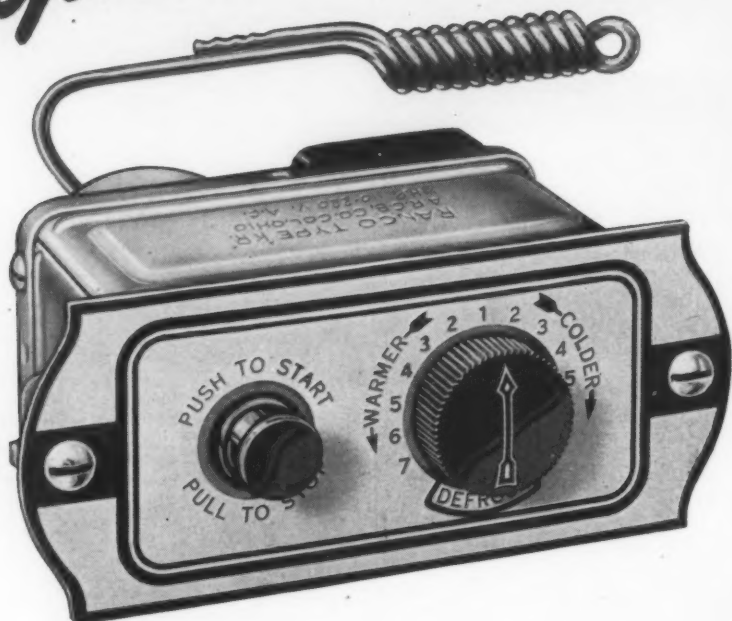
Baltimore 1, Md.



Now

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For Replacements



Ranco KW-411 General Replacement Control, with adjustable mounting bracket, cable connection and outside service indicator for range adjustment.

Replace with Ranco Refrigeration Controls . . . that's the way to insure complete customer satisfaction. And it's the way to make your job easier, too—you spend less time, and make greater profits, on every replacement job. Ask your Ranco wholesaler to show you the complete line of Ranco Replacement Controls . . . models and types for general or exact replacement, for both commercial and domestic installations.

✓ CHECK with *Ranco* FIRST

- ★ SPECIALISTS IN REFRIGERATION
- ★ DEPENDABILITY
- ★ GREATER CUSTOMER SATISFACTION
- ★ MORE RANCO CONTROLS IN USE
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- ★ MORE PROFIT FOR YOU

Ranco Inc.

World's Largest Manufacturers of REFRIGERATION



COLUMBUS 1, OHIO

CONTROLS

THE SERVICE MAN'S DEPARTMENT

Here's how

Edited by
Warren W. Farr

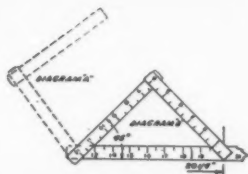
Your Chance to Sell

It may be a salesman who sells the home freezer TO the American housewife, but the serviceman is going to be the one who has to sell her ON it. That's the considered opinion of the service manager for one major home freezer manufacturer.

Since the home freezer is a relatively new product, he points out, consumers are going to need plenty of education on how to use these

OCCASIONALLY the service man is faced with the problem of bending or cutting material to a 45° angle.

A six-foot folding rule can be set to form this angle, as is illustrated by the accompanying diagrams, A and B. (Editor's note: to



better illustrate the method outlined, the two diagrams have been "telescoped" into one, with dotted lines indicating the position of the rule in A).

1. Open the rule to the 30" mark and bend as indicated in position A.
2. Now bring the end of the rule to the 20 1/4" mark, just as shown in position B. The resultant angles are 45°.

Harry M. Kauck, Philadelphia.

units to best advantage. And it is here that the serviceman is in a position to do a big selling job. In addition to maintaining an extra speedy repair service, the serviceman or service firm should be able to advise the home freezer user as to correct methods of food processing, freezing, and storage, and should be able to orient the user on basic fundamentals of low-temperature cabinet operation.

WANT TO EARN \$5?



You don't have to be a writer or a literary genius! Just jot down some of the shortcuts you've developed in your maintenance or installation work and send them to **HERE'S HOW EDITOR, REFRIGERATION INDUSTRY**. Your \$5 will be paid promptly when your maintenance tip is published in the magazine. Let's hear from you!

The serviceman must know where to place food packages in the freezer for freezing purposes, and the approximate amount of food that can be frozen in any particular model in addition to normal storage. He also must be able to interpret possible fluctuations in freezer temperature in terms of the quality of the frozen product.

Last, but far from least, of course, is the importance of the realization by the serviceman of the necessity for prompt service in cases of home freezer failure. Tests have shown that if the frozen food stored in the unit is to be saved in the best condition that repairs must be completed with 24 hours after the unit has ceased to operate, *not* after the report of failure has been received by the serviceman. Failure to reestablish refrigeration within 72 hours will result in food being thawed to the point where it cannot satisfactorily be frozen again.

**BUY FROM YOUR
REFRIGERATION WHOLESALE**

Have You Ever Been Sued?

Maybe you've never had to dodge a process server. If so, you're lucky, for the very fact that you are operating a business of your own lays you wide open to the possibility of a thousand-and-one different varieties of civil damage suits. And a substantial judgment against you on any one

I HAVE seen—and used—a number of makeshift devices for checking compressor oil levels, and I notice that a number of your readers have submitted ideas on how they do this particular job.

However, the device sketched here, in my opinion, is the most practical of all the devices I have found for checking oil levels. It is



a measuring rod from a junked automobile engine, and may be purchased very cheaply at any junk yard.

The rod may be ground and made very narrow, for very small oil holes. It will also indicate the level of a very light oil, something that not all of the devices we have added will do.

As may be noted from the accompanying sketch, it is necessary to drill small holes in the rod to make the measurement more accurate. These holes will fill with oil up to the top level at which there is oil, enabling you to gauge correctly the amount of oil in the crankcase.

John H. Hunter, Wilmington, Del.

of these counts might well mean the loss of your business.

There's no way in the world of preventing all of the varied mishaps for which you, as an independent business man, may be held liable, but



TRIPLE PROTECTION

—at—
LOWER COST!



... with CESCO's No. 605 Fume Kit

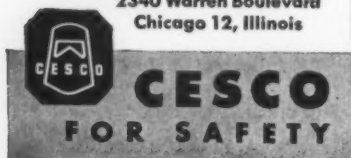
CESCO's Healthguard Fume Kit (No. 605) offers *triple protection* to refrigeration servicemen. Quick-change filter cartridges assure safety against ammonia, methyl-chloride and sulphur-dioxide fumes . . . *all in one convenient carrying case.*

The soft molded rubber face-piece of the fume mask, and the adjustable headgear assure a gastight, comfortable fit for every wearer. Large safety glass lenses give perfect visibility.

The CESCO Healthguard Kit provides *economical* protection because it is *moderately* priced.

Write for CESCO's No. 605 Safety Bulletin for complete information

CHICAGO EYE SHIELD CO.
2340 Warren Boulevard
Chicago 12, Illinois



you can protect yourself financially against such mishaps through proper and adequate insurance—a fact which many otherwise level-headed businessmen all too often overlook.

No doubt you already have taken the more obvious insurance precautions, such as insuring any company owned cars or trucks against personal liability, property damage, and perhaps collision. But have you ever stopped to consider the fact that you, as an employer, also are responsible for any damage incurred by a car owned by any of your employees, if that car is being used in the conduct of your business? This is a hazard which probably 99% of small businessmen overlook, yet many a man has lost his business because he failed to protect himself against such a hazard by some form of contingent liability policy.

Fire insurance you no doubt have, and perhaps burglary too. But how many of you have burglary policies which protect your company's funds against inside and outside holdup as well as against safe looting?

If your place of business has a show window, don't forget to investigate plate glass insurance. And if

there are elevators in your building, best you break out your bi-focals and read the fine print in your lease again. Some leases, you will find, provide that responsibility for loss or

HERE is a tip for service men that will speed up service work by making the selection of tools easier when you are out on the job.

Simply paint the tools that you use most a brilliant color, but paint each individual size wrench a different color.

In a little while you will associate the distinctive colors of the tools with the kind or size of tool it is. You'll be surprised how much more quickly you will be able to select the proper size wrench from among all those you carry in your tool box.

L. W. Williamson, Lawton, Okla.

injury due to elevators is the burden of the tenant, not the owner.

Then there's the matter of contractual liability. Your best customer can sue you for your bottom dollar, if he so desires, if you fail to fulfill to the letter your contract with him.

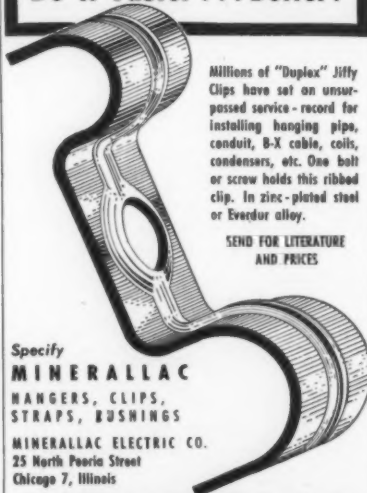
Product liability is usually assumed to be the responsibility of the manufacturer, but don't forget that the installer as well as the manufacturer may be sued for damage resulting from a defective product.

These are just a few of the many points regarding insurance protection which are worthy of your consideration. We are not in the insurance business, nor do we get one penny of commission on any policies peddled, but just for your own good we earnestly suggest that you take time out to review with your own insurance man your company's insurance requirements. It may someday mean the difference between your being in business or out!

MINERALLAC "DUPLEX"

JIFFY CLIPS

Do it Faster . . . Better!



Millions of "Duplex" Jiffy Clips have set an unsurpassed service record for installing hanging pipe, conduit, B-X cable, coils, condensers, etc. One bolt or screw holds this ribbed clip. In zinc-plated steel or Everdur alloy.

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AND PRICES

Specify
MINERALLAC
HANGERS, CLIPS,
STRAPS, BUSHINGS

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25 North Peoria Street
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MINERALLAC

EBCO NAMES LATHAM AS EXPORT AGENCY

A. R. Benua, president of EbcO Mfg. Co., Columbus, Ohio, has announced selection of the firm of J. H. Latham, 111 Broadway, New York, as sole exporters of "Oasis" electric drinking water coolers. Howard P. Michener, Jr., of the Latham organization, has been selected as the account executive.

**BUY FROM YOUR
REFRIGERATION WHOLESALER**

LOOK FOR THIS NEW PACKAGE!



the important thing to know about
refrigeration tube is

IT'S REVERE!

Every feature you want in copper refrigeration tube, you'll find in Revere Dryseal. This tube is dead soft, so that you can bend it easily—and the ends won't split when they're flared. The clean, bone-dry interior is permanently protected by a new double groove *mechanical seal*, compact enough to pass through any opening large enough for the tube itself. The new package protects the tube, keeps it bright and clean, and is readily identifiable in stock.

Whenever you buy refrigeration tube, look for the red and blue Revere Dryseal package. That's the way to be sure of fine quality—month in and month out—on every length you buy.

Revere Dryseal Tube comes in sizes from $\frac{1}{8}$ " to $\frac{3}{4}$ " O.D.,

with standard wall thicknesses and is packed two 50-foot coils to a package. You can get prompt delivery on Revere Dryseal Copper Tube—or Revere Aluminum Refrigeration Tube—from leading distributors throughout the country.

Remember... be sure to ask for REVERE!

REVERE

COPPER AND BRASS INCORPORATED

Founded by Paul Revere in 1801

230 Park Avenue, New York 17, New York

Mills: Baltimore, Md.; Chicago, Ill.; Detroit, Mich.; New Bedford, Mass.; Rome, N.Y.—Sales Offices in Principal Cities, Distributors Everywhere.

**PLEASE THOSE
GOOD CUSTOMERS**

**WITH THIS
JIFFY
START
EMERGENCY**

CAPACITOR



• Refrigerator stopped . . . food spoiling . . . no replacement capacitor available within hours or even days . . . owner hopping mad?

• That's easily handled. Just take an AEROVOX EMERGENCY CAPACITOR out of your bag. Plug in total capacity required. (If in doubt, use Capacitor Selector which tells you how much.) Clip in place of burnt-out motor-starting capacitor. Presto! Refrigerator runs again. When you get around to it, install permanent replacement. • Meanwhile, you've cashed in by rendering real service. Customer is delighted. You've got another booster.

• Ask your parts supplier for Aerovox Emergency Capacitors. Keep a few of them on hand. Also ask about the Capacitor Selector. They'll pay real dividends!



**FOR RADIO-ELECTRONIC AND
INDUSTRIAL APPLICATIONS**

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Export: 13 E. 40th St., New York 16, N.Y. • Cable: 'ARLAB'
In Canada: AEROVOX CANADA LTD., Hamilton, Ont.

CONTRACTORS . . .

Continued from page 43

Ehrenhardt, General Electric; George Davis, Lynch Mfg. Co.; George Kingston, Nash-Kelvinator; C. E. Ploeger, Servel; W. W. Higham, Universal Cooler; H. A. Brysselbout, York Corp.; and Leonard C. Bastian, recording secretary.

SEATTLE CONTRACTOR INCORPORATES FIRM

The Automatic Refrigeration Co., Seattle, was incorporated recently with a capital of \$100,000. The incorporators are James H. Lessard, founder and president, and Faye Lessard. Automatic Refrigeration Co. is distributor in King county for Tyler refrigeration equipment.

JOINS DEALER'S STAFF

James F. Sasser, formerly regional manager of the Cleveland region for Chrysler Airtemp, has joined Limbach Tempatrol Co., Airtemp distri-

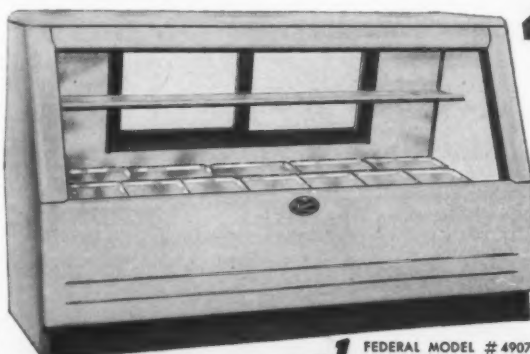
butor in Pittsburgh, as chief engineer in the cooling division. He has charge of design application engineering and direction of installation, servicing and drafting departments.

BANK COOPERATES TO PREVENT "DUMPING"

A recent instance in which cooperation between a bank which had taken over a bankrupt contractor's equipment and the local contractors' organization prevented "dumping" of the repossessed merchandise with possible demoralizing results has been reported to NARC headquarters by the Refrigeration Contractors Association of Northern California.

The bank, according to the report, had financed a Vallejo contractor to the extent of about 145 equipment items. Because of poor business methods the contractor failed, and the bank, after taking over the equipment, contacted the local contractor group for suggestions.

A committee of the association is working with the bank in pricing out the equipment on the basis of the



**A NEW
SALES
FIELD!**

The ideal case for the small store . . . Also an auxiliary case for the super market.

FEDERAL MODEL # 4907
THE NEW Federal "FOOD ECONOMIZER"
SEVEN FOOT Self-Contained DOUBLE DUTY

SENTATIONALLY
**LOW
PRICED**

SAME HIGH QUALITY . . .
AS ALL FEDERAL CASES

FEATURES THAT SATISFY!

- Genuine Porcelain Exterior
- Triple Clear Vision Sweat Proof Display Glasses
- Cool-Brite Lighting — Economical
- Large Size Rubber Doors . . . will not warp or stick
- Air Conditioned "Filter-Kold" System
- Husky 1/2 H.P. Air Cooled Compressor

THIS IS THE BIGGEST MONEY MAKER IN THE REFRIGERATION FIELD AND A FORWARD STEP TO HELP THE "LOWER PRICE" MOVEMENT

**MERCHANDISE WITH
FEDERAL PRODUCTS**

For: Dairy Products . . . Produce . . .
Delicatessen . . . Bakery . . . Frozen Foods . . .
Meats, Etc. Service or Self-Serve
Some desirable territories available on this new model and our complete line. Write for details.

Federal REFRIGERATOR MFG. CO.
COMMERCIAL REFRIGERATORS ★ WAUKESHA, WIS.

amount due the bank. When complete, the list will be circulated among distributors and dealers for purchase if desired.

This method, the association hopes, will benefit the industry by preventing dumping of the merchandise with possible demoralizing results in the local market.



"You say you get quite a bit of heat loss through this door? How come?"

Reprinted from "Successful Farming"

L. A. RULING AFFECTS TUBE-LIGHTED FIXTURES

The Department of Water and Power of the City of Los Angeles has announced that it is now enforcing regulations requiring at least a 90% power factor on all fluorescent or gas tube systems installed in display and refrigerated fixtures, according to Neal S. Templin of the Refrigeration Contractors Association of Los Angeles.

While the regulation covering this was adopted in September, 1942, it was not until June 1, 1947, that enforcement was started. This requirement applies to all tube units rated 15 watts and over, and for all gas tube systems. Mr. Templin states that the city is insisting upon the installation of high power factor ballasts and transformers on all new or used equipment now being installed in its jurisdiction and is refusing electric service for any systems not so equipped.

Equipment in service prior to June 1, 1947, may be continued in use without alteration until such time as repair work or rebuilding requiring a city permit is done on it, when it must be made to conform to the new rule.

FUSIBLE-PLUG MELTING POINT SET AT 165 F

Fuse metals in fusible plugs use on refrigerating apparatus in Detroit must have a melting point no higher than 165 F and the melting temperature of the fuse metal must be plainly stamped on the plug, according to a recent ruling by the city's department of buildings and safety engineering.

In a bulletin issued recently, the department defines the permissible limits which it will allow on refrigeration equipment. The Detroit refrigeration code leaves approval of fusible plugs to the discretion of the department, which in turn is guided by recommendation of such agencies as Underwriters Laboratories.

"Fusible plugs in which the fuse metal has a melting point of 165 F will be permitted," the bulletin states. "Likewise, those having points somewhat lower than 165 F also will be permitted. However, those using fuse metals with melting temperatures higher than 165 F will not be permitted. In all cases the melting temperature of the fuse metal must be plainly stamped on the fusible plug."

GRUNOW AUTHORIZED DEALERS ARE MAKING MONEY!

Build up your new
box sales now with
Grunow Service
Business!

Write for Grunow
Authorized Service
in your territory.

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AUTHORIZED SERVICE, INC.
4313 W. Fullerton Ave., Chicago 39, Ill.

LOWER COST—Better SEAL Brush or Spray Adhesive COLD

The MODERN way to adhere vapor-seal membranes and insulations is to apply Laykold Adhesive COLD, right from the barrel, either with brush or high-pressure spray. YOU like the ease of handling and LOWER LABOR COST. Your CUSTOMERS like the complete SEAL which gives them LOWER MAINTENANCE and OPERATING COST.

Laykold
MADE IN U.S.A.

INSULATION ADHESIVE

Seals Membranes — Adheres Insulation

1. **COSTS LESS** in labor to apply.
2. **NO FIRE HAZARD** to job, men.
3. **NO WAITING** for heating.
4. **NO FUMES** to breathe, to taint stored food products.
5. **TIGHTER SEAL** — pressure spray penetrates, seals.
6. **UNIFORM ADHESION** — no lumps, no missed spots, air pockets.
7. **SELF-HEALS** nails, skewers, cracks, insulation joints.
8. **STAYS ALIVE** — keeps adhering.

Spray Laykold Products and reduce labor costs. Try them on ONE job — you'll never want to go back to old methods.

Ask our nearest office for literature, specifications, prices.

Other LAYKOLD Products

WEATHERCOAT — protection for block insulations, concrete, brick.

HYDROPEL — an admix to reduce water absorption in concrete.

FLOOR MASTIC BINDER — to make ideal floors for cold rooms.

FIBRECOAT — protection for metal and bituminous roofs.

REFRIGERATION BINDER — for waterproof plaster finish and with Lumnite, a wet wall adhesive.



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Capella **OILS**

TEXACO *Capitol*

ELECTRIC REFRIGERATION UNITS • • AIR CONDITIONING UNITS

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ELECTRIC REFRIGERATION UNITS

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COMPRESSORS

三

THE UNIVERSITY OF CHICAGO

of Maryland)
Private Information

ELECTRIC REFRIGERATION UNITS

[illegible]

AIR CONDITIONING UNITS

[illegible]

ELIMINATES GUESSWORK!
 Lists make and type of compressors
 and refrigerants in:
 64 Electric Refrigerating Units
 39 Air Conditioning Units
 Shows instantly the recommended
 grade of **Texaco Capella Oil** for
 each. Guide may be used as a wall
 chart or bound into service manual.
 Write for your **FREE COPY** today.

Get this helpful Guide

HERE'S the *newest* edition of the Texaco refrigeration compressor lubrication guide. Send for yours today. It will tell you the correct grade of *Texaco Capella Oil* for every leading type and size of refrigerating and air conditioning unit. *Texaco Capella Oils* are approved by all leading compressor manufacturers. They assure clean, efficient, economical compressor operation because they are highly stable, moisture-free, and do not react with refrigerants... and because of

their low pour tests and high resistance to gumming and sludging.

There are *Texaco Capella Oils* of suitable viscosity for every requirement...and the conveniently-sized 1-qt., 1-gal. and 5-gal. containers are re-sealable to keep unused oil in proper condition.

Let *Texaco Capella Oils* bring you extra compressor oil business.

The Texas Company, 135 East 42nd Street, New York 17, N. Y.



TEXACO Capella Oils

FOR ALL AIR CONDITIONING AND REFRIGERATING EQUIPMENT



Tune in...Texaco Star Theatre every Wednesday night featuring Gordon MacRae, Alan Young, Evelyn Knight; ABC Network



THE LIQUID EYE

"A NEW TYPE OF LIQUID INDICATOR"

- Eliminates Pressure Drop . . .
- Light, sturdy construction . . .
- Positive reaction of indicator . . .
- Pyrex tubing insures safety . . .
- Proven under actual field conditions . . .
- Pliable gaskets are impervious to Methyl Chloride, Freon-12, Sulphur Dioxide and Refrigerant Oils . . .

Ask to see the liquid eye at your jobber

ALLIN MFG. CO.

1153 West Grand Ave.
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NEW PRACTICAL LA CROSSE ICE CUBE MAKER



SPECIFICATIONS:

Production Capacity—
21 quick release trays—
14 cubes each.

Storage Capacity—
approximately
900 cubes
plus 204
cubes in
trays.

Designed to meet the demand for both production and storage in one unit. La Crosse leads the field in this newest addition to their complete line of refrigeration models.

La Crosse Cooler Co.

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Export Representative: Melvin Pine & Co.
80 Broad St., New York 4, New York
Cable Address: Eximport

THE PRACTICAL Refrigeration Engineering MANUAL . . . by Harold Smith

XXII. Food Freezing and Storage For Farm and Home

PART III

WITH the information given in the table contained in Part II of this section (see March issue) you can figure out with each customer the total number of pounds of food he expects to process; also the number of pounds average weekly consumption of such food by the family.

When you have these figures, you can quickly select equipment with sufficient capacity to satisfactorily take care of the customer's family requirements.

As most people have never attempted to figure out what their food consumption amounts to in terms of pounds of food, it may be a somewhat difficult procedure to work these requirements out without working up tables of average food consumption per person.

The U. S. Department of Agriculture has statistics on food consumption per person on nearly every item of food ordinarily consumed by the people of the country.

These average figures in pounds per person should serve as a dependable guide for developing cabinet capacity requirements after you have learned from the customer the different items he intends to process, freeze and store in the cabinet.

ANALYZE YOUR MARKET

It is advisable to carefully analyze your market to determine the volume of business available in the frozen food equipment field. The different potential buyer groups can be set

up under several general capacity requirements, enabling the refrigeration engineer to determine the size and type of equipment to recommend as best suited for the individual needs of the prospective customer.

POTENTIAL BUYER GROUPS

Group No 1—City Dwellers

a. Those who use cabinet for storage only.

b. Those who use cabinet both for storage and for some processing.

c. Those who do considerable processing along with storage.

Group No. 2—Farmers and Rural Dwellers

a. Those who use cabinet for storage and some processing.

b. Those who do considerable processing with storage.

c. Those doing processing and storage on a commercial or semi-commercial basis.

Under each group the number of people in the family must be taken into consideration.

The frozen food business, while revolutionary, is basically sound and holds ever increasing opportunities for the future. New processes will be developed, as a great deal of study and research work is constantly being undertaken by refrigeration engineers, colleges and universities and food specialists.

Frozen food processing provides for greater utilization of all food crops and better living for all people. This is a branch of refrigeration that will continue to grow year by year. You will be able to do a big job in this field if you use care and good engineering judgment, selling

COOLSTREAM TOPS COOLERS WITH COLORED PLASTIC

Adaptation of top plates of gaily colored plastic to its line of electric water coolers has been announced by Coolstream Corp.

These top plates of "Lucite," which comprise the entire bowl, are available in a variety of colors to match or complement the colors of the cabinet itself.

The new tops are claimed to have several advantages over the stainless steel tops previously used. Light and

resistant to abuse, this plastic can be easily cleaned.

NEW BRANCH MANAGER FOR FRIGIDAIRE IN N. Y.

J. T. Collins has resigned as New York branch manager of Frigidaire Sales Corp. after serving for 15 years in that post, and T. A. Arminio, formerly assistant New York branch manager, has been appointed to the branch managership. Arminio has been in the New York Frigidaire branch since 1933.

your customers the correct type and capacity equipment to satisfactorily handle their needs.

Before closing this chapter we would like to discuss briefly the need for warning or protective equipment used with frozen food installations.

Relatively large quantities of food are stored by freezing. Any mechanical or electrical failure affecting the refrigeration equipment, if not quickly discovered, can prove expensive due to food losses. It also can prove harmful to the development of the frozen food business, as unfortunately people who suffer expensive food losses frequently publicize these facts and often frighten potential buyers from purchasing equipment.

WARNING DEVICES ADVISED

It is therefore advisable to sell some type of warning device with each installation. These devices consist of warning bells, warning lights, or thermometers, all quickly indicating sudden abnormal rises in temperature.

If prompt steps are taken when the warning signal is given, losses usually can be eliminated. This naturally is highly important.

Customers should always be instructed to arrange for some one to check their frozen food equipment at least once each day. This is especially important if they are going away from home and leaving the equipment stocked with food.

PROMPT ACTION IMPORTANT

Prompt action in such cases usually can get most trouble corrected before the temperatures rise to a point where the frozen products thaw out and become spoiled. As an emergency measure, dry ice placed in the cabinet will hold the cabinet temperatures safely below the thawing

point until the trouble is corrected and the unit is again in operation.

All of these activities, however, are dependent upon some warning device to quickly indicate the approach of trouble, thus assuring prompt action to protect the frozen products stored in the equipment.

SELL ON SOUND BASIS

Make your sales program sound. Sell the proper type of equipment, with adequate capacity, and protect the sale with a good warning device. This will give you the right approach to this field with its almost unlimited opportunities.

All refrigeration engineers who plan extensive activities in the frozen food field should organize their service organization in such a way that it is in a position to render fast, efficient service at all times.

"FIRST AID" INSTRUCTIONS

Another step that will tend to give your customer confidence in you and your services is to prepare and have printed a card giving "first aid" instructions to the frozen food equipment owner, thus enable him to act quickly and sensibly when confronted with a temperature rise in his frozen food cabinet.

This instruction card should outline the steps to follow to get the cabinet back in operation as quickly as possible. The wording can be brief but should serve to guide the owner's actions until the serviceman can arrive to take care of the situation.

This card also can be made to serve as a useful piece of sales advertising literature and as a means of providing prospective customers with your name as a source of supply for frozen food equipment.

THE RIGHT FLUXES for the REFRIGERATION INDUSTRY

There is absolutely no irritation to the eyes, nose or skin when using Krembs FLUXINE Fluxes. There are positively no injurious fumes. That is only one of the many advantages of Krembs FLUXINE Fluxes. They are highly concentrated . . . contain no waste material . . . just flux. That's why they do more and better brazing, soft soldering, and silver soldering.

There is a FLUXINE Flux for every metal-joining operation. For instance, our FLUXINE Flux No. 43 is ideal for low-melting-point silver solders.

There are 89 FLUXINE Fluxes . . . each for a specific job. Write us your metal-joining problems. We have 70 years of experience.

Ask your jobber about FLUXINE Fluxes. He knows they produce the best results with the greatest economy.

Write on your letterhead for chart which shows the FLUXINE Fluxes for your metal-joining problems.

KREMBS & COMPANY

Est. 1875
Dept. P, 669 W. Ohio St.
CHICAGO 10, ILL.

FLUXINE

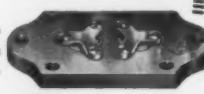
TRADE MARK REG. U. S. PAT. OFF.

PLAYSAFE

USE CHICAGO SEALS and VALVE PLATES



Only Chicago valve plates have replaceable seats.



CHICAGO SEAL CO.
20 NORTH WALKER DRIVE • CHICAGO 4, ILL.

PROBLEM: Plenty of "FREON" No way of shipping it!



KINETIC CHEMICALS, INC.
WILMINGTON 98, DELAWARE

CABLE ADDRESS: KINETICHEM

Here are the facts about the "Freon" cylinder shortage:

1. There are 233,500 cylinders up to 145-pound size away from the "Freon" plants.
2. These cylinders have a capacity of 22,500,000 pounds of "Freon-12."
3. Deposits paid and available for refund total \$3,000,000.
4. Cylinder capacity of 7,000,000 pounds of "Freon-12" was lost in 1947 because shipments exceeded return of empties. In January 1948, "lost" cylinders have a capacity of 655,000 pounds.
5. New cylinders received from all sources in January 1948 will hold only 188,000 pounds of "Freon-12." These can be loaded and shipped in less than 3 days!
6. Cylinders on order have a capacity of 8,130,000 pounds of "Freon-12," but deliveries cannot be expected for many months because of steel shortages.
7. Of necessity, shipments have been reduced and will continue only in line with number of cylinders returned.

ONLY SOLUTION is the immediate return of empty "Freon" cylinders to: Kinetic Chemicals Inc., Carney's Point, N. J.

Transfer "Freon-12" in stock or storage into refrigerating or air conditioning equipment now. Unless empties are returned, it will be impossible to meet spring and summer demands. Kinetic Chemicals, Inc., Tenth and Market Streets, Wilmington 98, Del.



FREON

REG. U.S. PAT. OFF.

safe refrigerants

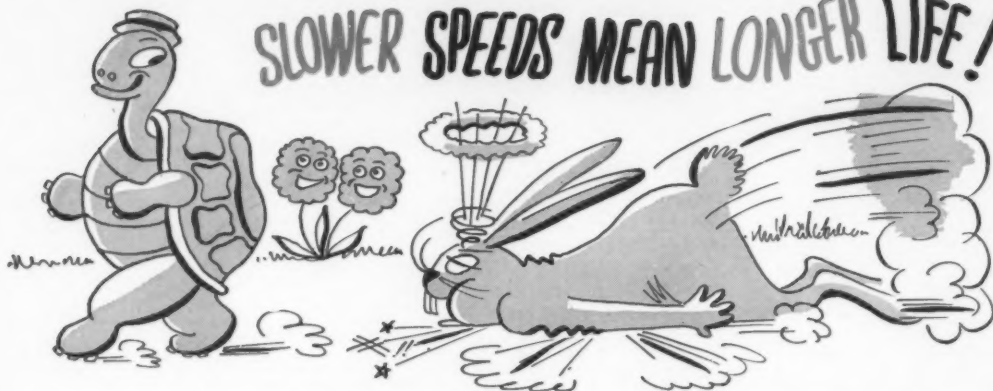
"FREON" IS KINETIC'S REGISTERED TRADE MARK FOR ITS FLUORINATED HYDROCARBON REFRIGERANTS AND PROPELLANTS.

BRUNNER
SINCE 1906

REFRIGERATION helps you serve better

Memo to Shrewd Business Men

SLOWER SPEEDS MEAN LONGER LIFE!



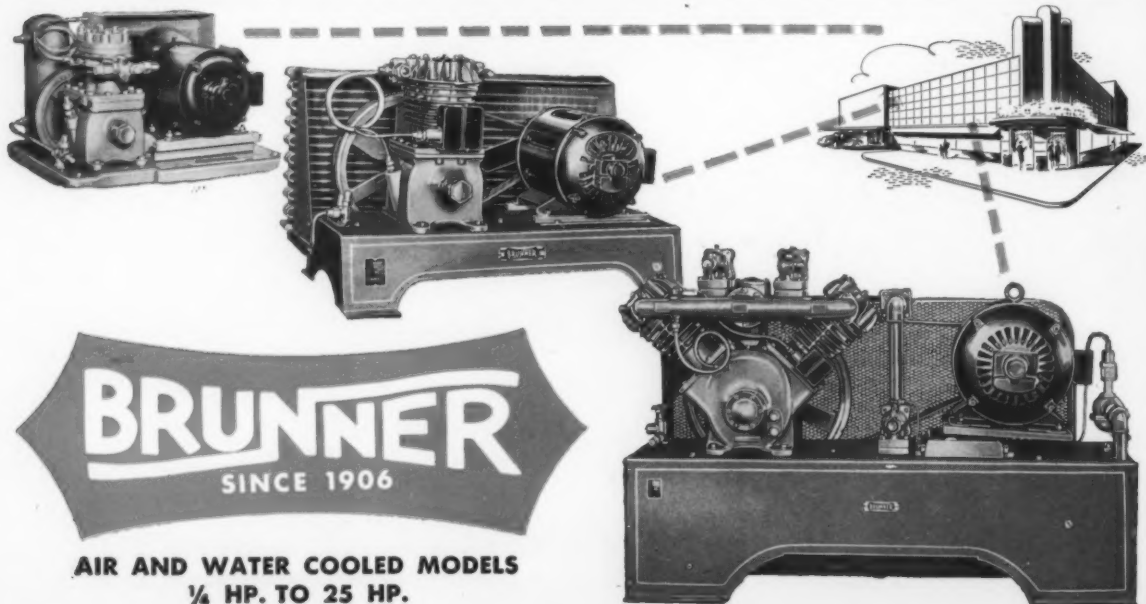
No fairy tale this: you use refrigeration units in your business only because they are essential to a profitable operation. Pump speeds, condensor tubes, suction areas, and other technical contributions to "slower speeds mean longer life" we'll leave to Brunner's factory representative to explain in detail.

Here is today's version: refrigeration units are too important for hurried selection. Slow up, take time to *compare* design and construc-

tion details. *Check* the experience of other users. Longer life comes with profitable, worry-free installations; prompt deliveries; long-lasting customer satisfaction. *Write us.* Spend a few minutes with Brunner's representative and know why plant capacities have been greatly increased.

BRUNNER MANUFACTURING CO.

Utica 1, New York, U. S. A.



BRUNNER
SINCE 1906

**AIR AND WATER COOLED MODELS
1/4 HP. TO 25 HP.**

AIR CONDITIONING GROWTH OUTLINED BY PIONEER

Design trends of the future for air conditioning equipment will be toward lighter and more compact units to save weight and space, in the opinion of A. E. Stacey Jr., director of application engineering, Carrier Corp.

Speaking before the Washington (D. C.) Society of Engineers, Stacey, a pioneer of the industry as one of the founders of Carrier, also forecast trends toward further increase in efficiency, easier servicing, and greater corrosion resistance.

Reviewing the growth of the air conditioning industry, Stacey cited five periods of development as follows: basic equipment, starting in 1900; automatic humidity controls, starting in 1906; air distribution, 1910; unit type of air conditioning, 1916; and extended surface heat transfer and centrifugal refrigeration, 1920.

EBCO MAPS \$150,000 WATER COOLER DRIVE

Ebco Mfg. Co. of Columbus has launched a \$150,000 promotional program for 1948 for its pressure and bottle type electric drinking water coolers.

A. R. Benua, president of the firm, said that the program will seek to boost sales by creating a conscious demand on the part of the public for readily available, properly cooled drinking water in factories, offices, stores, theaters, stadiums, banks, and other places where numbers of people work or congregate. The electric drinking water cooler has been sold only to 15 or 20% of its saturation point, Benua said.

Promotional program includes both intensive advertising in a considerable number of general, trade, and specialized fields and public relations activities directed by Theodore R. Sills & Co. of Chicago and New York, who have directed public relations for REMA for the past four years.

ALBERT F. MILTON NAMED TREASURER OF BAKER CO.

At the last annual meeting of the directors of Baker Ice Machine Co., Inc., Albert F. Milton was elected treasurer of the company. He will continue to act as chairman of the executive committee of the board of directors and secretary of the firm.

STEVENS TO HEAD DEALER SALES FOR PALM BROS.

Don E. Stevens, formerly president of Twin City Refrigeration, Inc., St.



Paul, Minn., has joined Palm Bros., Inc., Minneapolis distributor of refrigerated equipment produced by Sherer-Gillett Co., Vitro Products, Inc., Bastian-Blessing Co., and Savage Arms Corp. In

his new capacity, Stevens will inaugurate a dealer sales program throughout the territory covered by these franchises held by Palm Bros.

PETERSON OPENS CONSULTING SERVICE

H. P. Peterson has resigned as chief engineer of Bush Mfg. Co. to open a consulting engineering service with offices in Manchester, Conn. He expects to concentrate on refrigeration design in his consulting work, giving special attention to problems involving heat transfer and air flow.

SHANK VALVES

FOR EASY SERVICE MOUNTING

Shank COPPER DEHYDRATORS



2" O.D.—Copper Tubing with 1/4" and 3/8" Flare Fittings. Ends—Brass Forgings with large hexagon area for Easy Service Mounting. Copper Tube sweat fitted to forging. Brass screens and felt filter.

1" O.D.—Spun End Copper Tube—Brass End Fittings properly proportioned and silver soldered. Brass screens and felt filter.

If Your Jobber Doesn't Stock—Write Us!

CYRUS SHANK COMPANY

631 W. Jackson Blvd. Chicago 6, Ill.

"Butcher Boy" COLD STORAGE DOORS

Exclusive Features

- ★ 100% DOUGLAS FIR DOORS
- ★ CONTROLLED QUALITY
- ★ OUTSTANDING APPEARANCE
- ★ LOWEST PRICES IN THE INDUSTRY

STANDARD FREEZER DOOR

with STANDARD HARDWARE



SUPER-FREEZER (OVERLAP) DOOR with SUPER-SEAL FASTENERS and FINGER-TIP DOOR OPENERS (EXTRA)

TRACK DOOR

with STANDARD HARDWARE



BUTCHER BOY COLD STORAGE DOOR CO. 170 N. SANGAMON ST., CHICAGO, U.S.A.

Mail Today

PLEASE RUSH BULLETINS ON COLD STORAGE DOORS

NAME

ADDRESS

CITY

STATE



Hold Any Temperature
You Want with



Refrigeration

"Cold" down to 130 degrees below zero F. is now common in research and test work. Penicillin is dried at minus 75. Foods are quick-frozen at minus 30 to minus



One-man Ice Plant
Makes 42 Tons a
Day.



Frozen Foods Stored
at Minus 10° F.



Frick-Freezer Held
at Minus 35° F.



Testing at Minus 76° F. in Refrigerated
Laboratory of Bendix Radio.



Detroit Wholesaler Opens New Branch



J. M. Oberc, Inc., Detroit wholesaler of refrigeration equipment and supplies, has opened this branch store on Detroit's "East Side" at 9749 Bessemore Ave., in the heart of the Gratiot-Harper business district. This new Oberc branch will carry complete stocks of refrigeration, air conditioning, and heating supplies and equipment. Excellent parking facilities are available. This is another move in the continuing expansion of the Oberc organization.

FURNITURE STORES SELL 20% OF FRIGIDAIRE UNITS

Furniture stores accounted for nearly one-fifth of Frigidaire's refrigerator volume in 1947, an increase of

400% since 1934 when these outlets first displayed electric refrigerators, H. M. Kelley, Frigidaire appliance sales manager, said at the opening of the annual January Chicago Furniture Market.



*Styling That Stops 'Em
Engineering That Sells
...and SATISFIES*

BEN-HUR Farm and Home Freezers

Beauty that wins instant attention and approval . . . a wealth of engineering features that guarantee superior efficiency in years of convenient food protection . . . this is the combination that makes the BEN-HUR dealer franchise highly enviable.

Take any one of the FOUR popular BEN-HUR Models — 6, 9, 12.5 or 18 cubic foot sizes — give it a feature by feature comparison. The BEN-HUR comes out on top consistently — and proves its superiority in the home after you install it.

COMPARE THEM ALL . . . And You'll
Choose The BEN-HUR Line

BEN-HUR MFG. CO.
Dept. R, 634 E. Keefe Ave., Milwaukee 12, Wis.

Powerful National Advertising . . . Complete Selling and Display Materials . . . Direct Mail Sales Helps . . . Seasonal Newspaper Ad Mats . . . are all EXTRAS that make the BEN-HUR Line highly profitable.



BEN-HUR FARM AND HOME FREEZERS

HEALTHFUL LIVING THROUGH FROZEN FOODS

THE REFRIGERATION INDUSTRY

Simplify YOUR REFRIGERATION INSTALLATIONS



WITH
HONEYWELL
Control PANELS

Shown in the photograph is one example of Honeywell refrigeration control panels. Two T415 temperature controllers and a remote bulb thermometer have been combined in a single compact, quickly installed unit.

If you're concerned over finding new methods to cut costs and step up production, you'll profit by investigating refrigeration control panels—a development of Minneapolis-Honeywell, the 60 year leader in automatic control.

Refrigeration control panels are designed and made by Honeywell to meet your own individual requirements. The panels simply group all controls for any one of your products into one compact, workable unit. The advantages are many. Inventory items are reduced from several to just one. Materials handling is cut the same way. Production goes up as the number of control installations goes down—

to just one. And time and again, among manufacturers already using Honeywell control panels, the net result has been the same—lower costs and increased production with greater operating efficiency.

The range of applications is broad. Temperature controllers, pressure controllers, thermometers, switches, motor starters, signal lights—all these and others can be combined on Honeywell control panels. Write today for information related to your own specific needs. Address Control Panel Division, Minneapolis-Honeywell, Minneapolis 8, Minnesota. In Canada: Toronto 12, Ontario.

MINNEAPOLIS
Honeywell
CONTROL SYSTEMS

Features that make a "BEST SELLER" of the JAMISON STANDARD COOLER and FREEZER DOOR

Because of its wide range of applications in moderately low temperature operations, the Jamison Cooler and Freezer Door far outsells any other type on the market. Adjustoflex Hinges, Wedgetight Fasteners and Coolerseal Gaskets give you smooth operation and positive closure.

ADJUSTOFLEX HINGE —(See Sketch) combines self-adjustment with spring tension regulation. Spring pressure automatically seats door gasket. A simple turn of adjusting screw alters spring pressure to compensate for gasket wear.

MODEL "W" WEDGETIGHT FASTENER —(See Sketch) is simply designed for extremely easy operation and minimum wear. It takes little effort to pull the outside operating handle which automatically opens the door. Operation of the push rod opens the door from the inside.

On closing, the fastener wedges the door tightly shut without rebound. Once closed, only normal operation of the fastener can open the door. The wedge is bored for use with locking pin and padlock. This Wedgetight Fastener is of modern, streamlined design to harmonize with the Adjustoflex Hinges. There are no protruding parts to catch, bend or break.

COOLERSEAL GASKET —(See Sketch) is applied in two locations to form a positive seal. The outer seal is placed on the back of the door front overlap and seats against the casing. The inner seal is fixed to a rabbet strip securely fastened to the jamb. The door is designed to insure simultaneous seating of both seals, creating a dead air space between seals. The Coolerseal Gasket is made of pure rubber—extremely resilient, durable and waterproof.

Whatever your requirements in Cold Storage Doors, the chances are that you'll find Jamison's standard products in many types and sizes will fit your exact needs. Or if you have an unusual problem, we are well equipped to furnish doors to any specification. Write for catalog and the address of our branch nearest to you. Jamison Cold Storage Door Co., Hagerstown, Maryland.



*The Oldest and Largest
Builder of Cold Storage Doors in the World.*



OPPORTUNITIES

Classified Advertising Section

HELP WANTED

SALES REPRESENTATIVE. NATIONALLY KNOWN LINE OF COMMERCIAL REFRIGERATORS. Several choice territories open. Contact dealers and distributors. Drawing account against earned commissions. Complete and heavily advertised line including reach-ins, display cases, full vision cases, wall display cases, frozen food cases, home and farm freezers, two temperature refrigerators, specialties. An excellent arrangement will be made with qualified and responsible men. Please supply all pertinent details in your reply. Address BOX 4148.

WANTED CHIEF REFRIGERATION ENGINEER

Nationally known California Manufacturer of Commercial Refrigeration has opening for an experienced Chief Engineer capable of assuming the responsibility of a complete Engineering Department, including mechanical and design development. Write, giving full details and salary wanted. Box 4248.

Serviceman Wanted: Must be fully experienced for Commercial Refrigeration Service. Truck furnished. Pleasant working conditions. Phone or write stating experience. Jerry's Refrigeration Co., 610 Washington Street, Wausau, Wis.

REPAIR SERVICE

Refrigeration Controls and Valves Repaired. Complete service for all makes and types. Also Stoker and Oil-Burner controls

repaired. All work guaranteed. Write for prices or just mail in controls. Acme Control Service, 5521 Lawrence Avenue, Chicago 30, Ill.

FOR SALE

OPPORTUNITY IS KNOCKING! Adrian Refrigeration Sales Company is for sale. Commercial and domestic refrigeration sales and service, established four years. Contact Cunningham Realty Company NOW! P. O. Box No. 65, Adrian, Mich.

Stop Terminal Leaks in Crosley Sealed Units by using the Jiffy Terminal. Easy to install, no special tools needed, can be installed in a few minutes without removing unit from cabinet. Set of three terminals \$5.00, or see your jobber. Detroit Sealed-In Parts Co., 19191 Rogge, Detroit 12, Michigan.

AVAILABLE—TEST MODELS of our starting and testing devices for stuck sealed units.

Offered to competent servicemen at approximately cost for additional field service reports.

REFRIGERATION LABORATORIES
1518 Cumberland Ave.
Waco, Texas

Quality bobtail fountains; reach-ins, walk-in boxes—wood, metal; dough retarders; double duty cases—stainless steel, porcelain; dairy, florist, bakery cases; ice cream hardening cabinets; thermopane frozen food cases; milk, sandwich coolers; stainless steel back bars; with machines. Equip-

ment made to special order. Frigitemp Corp., 931 Bergen St., Brooklyn 16, N. Y. MA 2-9093.

FOR SALE—Air-cooled and Water-cooled, remanufactured condensing units, 1/4 up to 2 H.P. Write for particulars, Edison Cooling Corp., 310 East 149 St., Bronx 51, N. Y.

Sealed units for sale. 1/2 HP. (F12). Complete with condenser, fan, relay, and shut-off valves. \$45.00 each. Lots of ten, \$40.00. Technical Refrigeration Specialist's, 362 East 180th Street, Bronx, N. Y.

"EXCELSIOR BEER PUMPS—made since 1933, are again available in 2 sizes: 1/4 HP and 1/2 HP. Attractive prices for Dealers." Excelsior Machine Co., 2601 Kutztown Road, Reading, Pa.

York-Shipley Ammonia Compressors 100—150—200 Ton

- 100 Ton Ammonia Compressors, Synchronous motor, 60 cycle, 203 amps, 440 volts, 190 H. P. output, 164 rpm. Weight without trim, 65,000 lbs.
- 150 Ton Ammonia Compressors, Synchronous motor, 60 cycle, 282 amps, 440 volts, 265 H. P. output, 164 rpm. Weight without trim, 80,000 lbs.
- 200 Ton Ammonia Compressors, Synchronous motor, 60 cycle, 328 amps, 440 volts, 300 H. P. output, 120 rpm. Weight without trim, 104,000 lbs.

In good working order. Can be seen at Factory. F.O.B. Long Island City, N. Y. Write or call R. R. Lacey.

LOFT CANDY CORPORATION,
Long Island City, N. Y.

factory representative

AIR CONDITIONING EQUIPMENT

Write Advertising Agency

Our client, mature in experience, with one of the industry's top engineering staffs, and a complete line of air conditioning equipment, is planning to widen and intensify its distribution. To this end it is seeking factory representatives in principal market centers . . . men with experience in the business and the ability to build volume with a quality line of products, and cooperative engineering counsel.

If you were to write the ticket for the kind of company you'd like to have to back up your selling effort and fill the needs of your customers, we doubt that you could approach the set-up this company offers.

Our client gives you everything with which to build a highly profitable business, product, engineering and service. They're smart, aggressive and going places. They're a fine group of men. You'll enjoy working with them.

INTERESTED? Then write, outlining your experience and qualifications. A meeting will be arranged. All correspondence handled in strictest confidence. Address—BOX X448.

MAGIC IN A SMALL BOTTLE

FREEZE-UPS ELIMINATED RIGHT AWAY!



ICE-X quickly cures emergency freeze ups when ice forms at the expansion valve or capillary tube. Harmless to use. Great for Freon, Carrene, or Methyl Chloride systems . . . The dependable liquid anti-freeze.

ONE SERVICE MAN TELLS ANOTHER - IT'S GREAT

ORDER FROM YOUR JOBBER OR—

THE HARRY ALTER CO. CHICAGO 16, ILLINOIS

JOBBER: WRITE FOR SPECIAL PROPOSITION!

YOU'LL FIND
Eston
REFRIGERANTS
ARE BETTER!



Distributors of
FREON II-12-22-II3

Years of use in all types of refrigeration equipment have proven Eston refrigerants are superior. All are of sustained high quality with exceptionally low moisture content. Servicemen say Eston refrigerants give better performance and more efficient operation. Eston jobbers are conveniently located. Write for complete information.

*In the West it's
Eston for Refrigerants*

Eston
CHEMICALS, Inc.
3100 East 26th Street
Los Angeles 23, Calif.



*Over the
COUNTER*

DESIGN FOR TOMORROW

1. Inventories and Credits

THE big job during the past several years has been expediting the deliveries of merchandise to feed the hungry backlog of orders accumulated in everyone's files. With the turn of the new year, however, this situation has started to change. Back orders are beginning to thin out, and buying tends to be more cautious and conservative than has been the case since the war's end.

Nineteen forty-eight will, without much question, be a good business year. However, many signs point to the need of a lot of good, sound, old-fashioned, competitive thinking and planning. This new line of planning should be set up to embrace all business activities—inventories, credits, operating expenses, sales and advertising.

Many people in business at the present time have almost forgotten the so-called normal periods of business competition. Some have never operated a business under these more exacting conditions. A real buyer's market may still be some few months away, but now is the time to plan and to start readjusting your business for the day when the customer is always right and frequently temperamental in his business dealings and buying habits.

Probably the first consideration given to this changing picture should cover the inventory situation. An inventory, well balanced, clean, and of proper size to feed potential sales, yet provide for a healthy turnover, is of the greatest importance.

Every effort should be made to put the inventory in a normal balance and a healthy condition as quickly as possible. Turnover should be on

a 60 to 90 day basis. Top heavy or slow moving items should be reduced as quickly as possible. Extra efforts should be made to get these adjustments worked out. Special items need careful watching and attention. Keep the inventory liquid and clean, as the No. 1 requisite for the future. Top heavy inventories caught in a declin-



"Add one more jigger and then shake well—it says here!"

ing market can provide an expensive headache. Start straightening out the inventory now.

The next problem, like inventories, represents money you have already invested. This is the credit situation.

During periods when merchandise is in great demand and hard to get, everyone buys freely, usually promptly paying their bills. When goods become more readily available a trend towards more conservative buying develops, with prospect of future lowering of prices to stimulate business.

The credit situation also usually changes quickly. It becomes progressively more difficult to collect accounts due for payment. Now, today, is the latest date to start getting credits in a sound, healthy condition.

Put every bit of effort possible on the old, long past due items. Don't relax your effort to get these straightened out. Begin to carefully examine and analyze in detail each account to whom you extend credit. Those who show up with any uncertainty should be set up for careful future observation and handling. Check the limits on every questionable account. Generally start reducing the limits for future credit extension wherever you detect a danger signal.

Time works against you on credits when business starts into a downward trend or into a period of adjustment. Remember these credits on your books represent an important part of your capital investment. Usually it takes sales totaling 10 to 20 times the amount of the credit to produce sufficient profit to equal or offset this loss.

A reduced sales volume is usually a better policy than gambling with credits. Don't hesitate to go after serious delinquents with every means at your disposal. Remember, other creditors are probably following the same tactics. Therefore the one applying the most pressure is the one most apt to come away with satisfactory results.

Every business man who is successful in placing his inventory and credit position in a sound, healthy condition need have no uncertainty in facing a period of competitive business, as by so doing he has protected his capital investment in this business and is conserving his resources. This in turn will enable him to meet his own obligations and thus keep his business in a healthy financial condition.

NEW FREEZER DISTRIBUTOR

Modern Appliance Co. of San Mateo, Calif., has been named exclusive California distributor for the American Beauty line of home freezers manufactured by American Refrigerator & Machine Co. Stocks will be carried by this company in both Los Angeles and San Francisco.

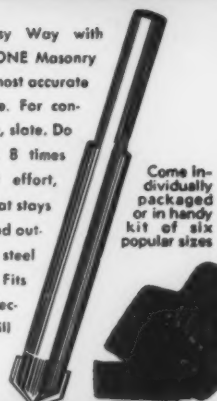
HOUSE OF GLASS



The insulation which this workman is installing on the building's air conditioning ductwork is only one of the dozens of applications of Owens-Corning "Fiberglas" materials which feature that company's New York headquarters. In addition to housing the firm's New York staff, this new building is designed to serve as a permanent demonstration of the wide range of usage of glass in fiber form. More than a score of Fiberglas materials, ranging from air filters, thermal insulation batts, acoustical blankets and acoustical tiles, to glass yarns fabricated into curtains, wall coverings, and upholstery fabrics, are used in the building, its equipment, and its interior decoration.

Faster, Accurate DRILLING in MASONRY with the CYCLONE Carbide Tipped ROTARY BIT

The New, Easy Way with the new CYCLONE Masonry DRILL, fastest, most accurate drill ever made. For concrete, brick, tile, slate. Do your job 4 to 8 times faster, without effort, with the drill that stays sharp longer and outlasts ordinary steel bits 50 to 1. Fits hand brace, electric drill or drill press.



Come individually packaged or in handy kit of six popular sizes

NEW ENGLAND CARBIDE TOOL CO., INC.
CAMBRIDGE 39, MASS.

REWA members offer you

1. Sound, helpful engineering advice on products.
2. Local warehouse facilities with ample stocks to serve the trade.
3. Intelligent, competent sales representation, plus economy in handling credits, adjustments, etc.
4. Catalogs, advertising, and other promotional activities directed toward keeping the trade informed as to new products, changes in design, prices, etc.
5. Progressive, business-like distribution contributing toward the stability of the industry.
6. Sound operating policies based upon ethical trade practices.

2 When you deal with a REWA wholesaler you have immediate access to complete stocks of all the leading manufacturers. There is no waiting. A telephoned order or a visit to the store brings you the items you need quickly and correctly. To conserve time and eliminate "Shopping around" patronize a REWA member—he will take a personal interest in your requirements.

180 MEMBERS
MAINTAINING
OVER 300
CONVENIENT
OUTLETS

BUY FROM A



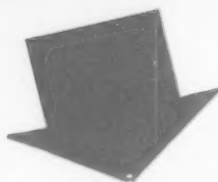
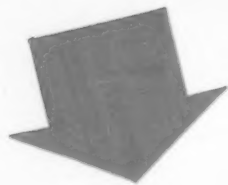
MEMBER

H. S. McCloud, Executive Secretary

920 East McMillan St., Cincinnati 6, Ohio

VIRGINIA

Refrigerants



"EXTRA DRY ESOTOO"

Liquid Sulfur Dioxide

"V-METH-L"

Methyl Chloride

**consistently pure
consistently sure**



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West Norfolk • New York
Boston • Detroit

VIRGINIA SMELTING COMPANY
WEST NORFOLK, VA.

Distributors for
Kinetic's "Freon" Refrigerants

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"EXTRA DRY
ESOTOO"

"V-METH-L"

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wholesalers
coast to coast



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ON EVERY

DEPENDABLE *Product*

AUTOMATIC PRODUCTS COMPANY

2486 North Thirty-Second Street

MILWAUKEE 10, WISCONSIN

Export Department, 13 East 40th Street, New York 16, N. Y.

STOCKED AND SOLD BY GOOD REFRIGERATION WHOLESALEERS EVERYWHERE... RECOMMENDED AND
INSTALLED BY LEADING REFRIGERATION SERVICE ENGINEERS

C.B.P.
MEANS BUSINESS

**YOU CAN'T BEAT THE
"C.B.P." PLAN FOR
REACHING BUYERS**

In the case of REFRIGERATION INDUSTRY, the C. B. P. Plan (Certified Buying Power) means 28,940 readers who are "known" buyers. These individuals are hand-picked from the customer-prospect lists of 52 selected refrigeration and air conditioning equipment jobbers located in key marketing areas. To the CCA guarantee of QUANTITY circulation, REFRIGERATION INDUSTRY thus adds the C. B. P. QUALITY guarantee of authenticated, "known" reader-buyers. Here is the needed sales link for the advertiser.

Jobbers Are Circulation Managers

Each of REFRIGERATION INDUSTRY'S 52 material handling equipment jobbers subscribes to the magazine for his active customers and prospects. He pays us \$1.20 a year for each subscrip-

tion. This guarantees that each REFRIGERATION INDUSTRY reader is interested in the editorial contents of the magazine, and—equally important—is an active, authenticated buyer of refrigeration and air conditioning equipment . . . the jobber being the authenticating agent.

REFRIGERATION INDUSTRY means business. Its 24,000 readers are YOUR potential buyers because they are also active, current customers of leading refrigeration and air conditioning equipment jobbers. Here is circulation representing the known national market for refrigeration and air conditioning equipment . . . a buying audience to whom you must tell your story.

"Certified Buying Power" is a powerful lever which you can use to raise your sales volume.

Other "C. B. P." magazines published by The Industrial Publishing Company are OCCUPATIONAL HAZARDS, for the industrial safety field, INDUSTRY and WELDING, for the welding field, and FLOW, for the material handling field.

THE REFRIGERATION INDUSTRY

1240 ONTARIO ST.

CLEVELAND 13, OHIO

